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THE EXCAVATION OF  
TELL BEIT MIRSIM IN PALESTINE

(Joint Expedition of the Pittsburgh-Xenia Theological Seminary  
and the American School of Oriental Research in Jerusalem)

Acc. N. 4566

VOL. I

THE POTTERY OF THE FIRST THREE  
CAMPAIGNS

by

WILLIAM FOXWELL ALBRIGHT

913.305  
A.A.S.O.R.



TO  
MELVIN GROVE KYLE  
ARCHAEOLOGIST  
AND PATRON OF PALESTINIAN ARCHAEOLOGY





## PREFACE

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After the first three campaigns of excavation at Tell Beit Mirsim (*Archaeology of Palestine and the Bible*, pp. 63-126) so much material has been gathered that the time has come to begin our definitive publication of the results. Following the example set by Rowe and Fitzgerald at Beth-shan, I have decided to begin with a volume on the pottery, especially since our site is unique in the great number of conflagration levels and other means of distinguishing between periods and sub-periods. Thanks to them we can give remarkably precise dates to most of our pottery, dates which agree throughout with such accurately dated material as that from Beth-shan and Gerar (after making the necessary corrections in the latter case). Our new information is of fundamental importance for the succession of phases in the Middle Bronze and Early Iron I; the Early Iron II may be said to appear clearly for the first time as a homogeneous group of certain age. By the comparison of our pottery with similar ceramic from other parts of Palestine, as well as from Egypt, Syria, and Cyprus, we have not only obtained absolute dates almost throughout, but have also succeeded in determining the approximate chronological scope of most of our types—a very important consideration, since a given type frequently does not share in the history of the ceramic period as a whole. In order to provide the student of Palestinian archaeology with additional data for the pottery chronology, we have also figured and described nearly all our scarabs and all our inscriptions.

The photographs of entire vases and sherds are due to the indefatigable industry of Dr. Aage Schmidt, to whom we owe a great debt of gratitude. The photographs here illustrated form only part of this material, and each photograph was often taken half a dozen times. Because of the extraordinary difficulties under which Dr. Schmidt labored, owing to dust and scarcity of water, some of the prints do not do justice to his painstaking care.

Practically all of the drawings have been traced from the originals on millimetre paper. These drawings were either made by myself or by trained assistants, among whom I may mention especially Dr. A. Saaristo, Professor O. R. Sellers, and Dr. K. Galling, to whom I wish to express our great indebtedness. I revised all the original drawings myself, to ensure the correctness of every detail. The plates also represent only a selection from our material, especially in period A. Plates 46, 49, 63-4<sup>1</sup> were drawn by Mr. L. Hanani

<sup>1</sup> Heavy face is employed throughout to indicate plate-numbers in this volume. Following the titles of books, etc., it indicates the number of volume, part, or plate, as the case may be.

(who was the draughtsman of the Crowfoot-Fitzgerald excavation at Jerusalem) from the originals. All the other plates were traced under my supervision, and every vase represented has been compared and revised where necessary by myself; Mr. Pinkerfeld (now with the Samaria Expedition) prepared plates 42, 44-5, 54-5, 71, and Miss Dorothy Hill, a student in the department of Classical Archaeology at Johns Hopkins University, drew all the others. For the unflagging care with which she traced outlines of many hundred vases, I wish to express my special obligation. In all cases I have examined, and often have corrected such details as rims, bases, etc. The drawings were made by myself, Mr. Hanani, Miss Marjorie Bentwich, and Miss Hill. Throughout we have stressed the importance of absolute accuracy in every detail of reproduction. As a result we can say with confidence that no publication in the field of Palestinian archaeology has surpassed, and that few have equalled our drawings in this respect.

In the treatment of ceramic we have not attempted to explain details which are understood by every trained archaeologist. Students may be referred to such studies as those by Franchet, *La céramique primitive*, by Vincent, *Canaan*, and especially by Macalister, in vol. II of his *Gezer*. I wish to acknowledge my personal indebtedness to Père Vincent,<sup>2</sup> Mr. Phythian-Adams, and Dr. Fisher, from whom I learned the elements of ceramic praxis during the years 1920-22. Since then I have not only carried on or assisted in numerous excavations myself, but have also visited scores of excavations under other auspices and have collected and examined pottery from hundreds of sites in various parts of Palestine and Syria.

It will probably be noticed that I speak very little about the texture of pottery and its grit content, etc. Unfortunately, most descriptions of texture are subjective and lack a generally recognized standard. Without numerous enlarged photographs of sections of sherds from different ages and of different classes of ceramic, no clearness can be achieved. At present it is infinitely safer to avoid this elusive field. The only ceramicist who can really be considered expert in this department is Père Vincent, many of whose slips, as well as successes, are due to dependence on it. In the same age, every possible variation in texture may be illustrated by specimens belonging to different categories of pottery.

My thanks are due, first of all, to the patron of our excavation and the president of its staff, Dr. M. G. Kyle, to whom I have dedicated this volume.

<sup>2</sup> To Père Vincent I am under peculiar obligation; occasional divergence from his viewa does not affect my profound admiration for his scholarly genius and for his knowledge of pottery.

The joint enterprise of the Xenia (now Pittsburgh-Xenia) Theological Seminary and the American School of Oriental Research in Jerusalem owes its inception and most of its success to his indefatigable efforts and his unflagging interest. To the other members of the staff of the three campaigns I also owe a debt of gratitude. Besides those who have been mentioned above, I wish to mention particularly Professors J. L. Kelso, Nelson Glueck and Dr. Paul Culley, who collaborated in the most whole-hearted way. The Egyptian surveyors, William Gad and Labih Sorial, and the Egyptian foremen also earned our gratitude by their faithful work. Once again I wish to stress the obligation which our expedition owes to Dr. C. S. Fisher, who has been our archaeological adviser from the beginning of our work in 1926. In our excavation we have constantly applied his methods, except where they were unnecessarily elaborate for so simple an organization as ours.

Without the friendly interest and assistance of the Department of Antiquities we could have done little. I desire to express our hearty thanks to the successive Directors, Professor Garstang and Mr. Richmond, as well as to the staff of the Department, especially Mr. Lambert, Dr. Mayer, and Miss Dixon.

We plan to continue our excavations during coming years, whenever the opportunity presents itself. The fourth campaign at our site is planned for this summer.

W. F. ALBRIGHT.

May the third, 1932.

POSTSCRIPT. Since the completion of this book I have paid extended visits to the excavations at Megiddo, Jericho, Samaria, Tell en-Naṣṣeh, Byhlua, and Ugarit (Râs eš-Šamrah). At Megiddo Mr. Guy has discovered three superimposed floor-levels from the EB. In the lower level are found ledge-handles with finger impressions, while in the two upper ones are late wavy ledge-handles, showing that the history of this type is more complicated than supposed in § 2. The folded wavy ledge-handle comes later in Megiddo, with nearly the same context as at our site. Tomb groups from the transition between MB and LB, about 1600-1450 B. C., confirm our conclusions. The discovery of pottery from the reign of Aḥḥ (cir. 870-850 B. C.) at Samaria is of great importance in fixing the duration of certain EI I types.

W. F. A.

June the twelfth, 1932.



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## LIST OF ABBREVIATIONS

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<i>AJA</i>	<i>American Journal of Archaeology.</i>
<i>ANNUAL</i>	<i>Annual of the American Schools of Oriental Research.</i>
<i>APEF</i>	<i>Annual of the Palestine Exploration Fund.</i>
<i>APB</i>	Albright, <i>Archaeology of Palestine and the Bible</i> , New York, 1932.
<i>BBSA</i>	<i>Bulletin of the British School of Archaeology</i> (Jerusalem).
<i>BM</i>	Bliss and Macalister, <i>Excavations in Palestine.</i>
<i>BPM</i>	<i>Bulletin of the Palestine Museum.</i>
<i>BSF</i>	Beth-shan Publication: Fitzgerald, <i>The Pottery.</i>
<i>BSG</i>	Grant, Beth Shemesh, Haverford, 1929.
<i>Bulletin</i>	<i>Bulletin of the American School of Oriental Research.</i>
<i>CPP</i>	Duncan, <i>Corpus of Palestinian Pottery.</i>
<i>G</i>	Macalister, <i>Gezer.</i>
<i>Gerar</i>	Petrie, <i>Gerar.</i>
<i>J</i>	Sellin and Watzinger, <i>Jericho.</i>
<i>JAOS</i>	<i>Journal of the American Oriental Society.</i>
<i>JPOS</i>	<i>Journal of the Palestine Oriental Society.</i>
<i>M I</i>	Schumacher and Steuernagel, <i>Tell el-Mutesellim</i> , vol. I.
<i>M II</i>	Watzinger, <i>Tell el-Mutesellim</i> , vol. II.
<i>MF</i>	Fisher, <i>The Excavation of Armageddon.</i>
<i>MG</i>	Guy, <i>New Light on Armageddon.</i>
<i>MJ</i>	<i>University of Pennsylvania Museum Journal.</i>
<i>PEFQS</i>	<i>Palestine Exploration Fund Quarterly Statement.</i>
<i>PJB</i>	<i>Palästina-Jahrbuch.</i>
<i>RB</i>	<i>Revue Biblique.</i>
<i>S</i>	Lyon, Reisner, and Fisher, <i>Samaria.</i>
<i>SD</i>	sequence-date.
<i>SPC</i>	Gjerstad, <i>Studies on Prehistoric Cyprus.</i>
<i>TF</i>	Petrie, <i>Beth-pelet I</i> (Tell el-Fâr'ah).
<i>TH</i>	Petrie, <i>Tell el Hesi.</i>
<i>THB</i>	Bliss, <i>A Mound of Many Cities.</i>
<i>TN 1, 2</i>	Badè, <i>Excavations at Tell en-Nasbeh and Some Tombs of Tell en-Nasbeh.</i>
<i>TT</i>	Sellin, <i>Tell Ta'anek.</i>
<i>TTN</i>	Sellin, <i>Eine Nachlese auf dem Tell Ta'anek.</i>
<i>UJ</i>	Vincent, <i>Underground Jerusalem.</i>
<i>ZAW</i>	<i>Zeitschrift für die Alttestamentliche Wissenschaft.</i>
<i>ZDPV</i>	<i>Zeitschrift des Deutschen Palästina-Vereins.</i>

## TABLE OF ARCHAEOLOGICAL PERIODS

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STRATUM	PERIOD	HISTORICAL AGE	CHRONOLOGY
J .....	EB III	.....	Last third of third millen- nium
I ....	MB I	.....Twelfth Dynasty.....	20th-19th century
H	"	" "	" "
G .....	"	.....Dyn. XII-XIII.....	19th-18th "
F .....	"	.....Thirteenth Dynasty.....	18th "
E .....	MB II	.....Early Hyksos Age.....	18th-17th "
D .....	"	.....Late Hyksos Age.....	17th-16th "
C <sub>1</sub> .....	LB I	.....Early XVIIIth Dynasty..	16th-15th "
C <sub>2</sub> .....	LB II	.....Dyn. XVIII-XIX.....	15th-13th "
B <sub>1</sub> .....	LB II-EI I	.....Pre-Philistine phase.....	Cir. 1230-1150
B <sub>2</sub> .....	EI I	.....Philistine phase.....	Cir. 1150-1000
B <sub>3</sub> .....	"	.....United Monarchy.....	Cir. 1000-920
A <sub>1</sub> .....	EI II	.....Divided Monarchy.....	Ninth century
A <sub>2</sub> .....	"	.....Late Preëxilic Age.....	Eighth-seventh century

Fall of Tell Beit Mirsim about 589-587 B. C.



## CHAPTER I

### STRATUM J (EARLY BRONZE PERIOD)

1. Up to the present very little has become known with regard to the subdivision and inner development of Early Bronze pottery. The key type is the wavy ledge-handle, which also served Petrie as the original basis for his predynastic sequence dating. Curiously enough, however, his view of the direction in which the wavy ledge-handle evolved in Egypt, though long since proved correct, has been reversed by some Palestinian archaeologists. Whereas Petrie traced the change of form from the pronounced wavy type, such as that found in his *Corpus of Prehistoric Pottery*, plate XXVIII, 1, 3, 14, 19, etc., through the notched forms XXIX, 43 ff., to the degenerate forms in XXX, Macalister, Watzinger, and Vincent (formerly) traced a supposed Palestinian evolution in the opposite sense. Macalister was the first to suggest this (BM 83, note, and plate 26), but after his work at Gezer he seems to have modified his opinion somewhat (cf. his noncommittal remarks, G II, 143 f.). Vincent followed Macalister (*Canaan*, p. 310 f.). Watzinger (J 104) expressed himself even more strongly than Vincent in favor of Macalister's original view, and consequently rejected all connection between the Palestinian and the Egyptian wavy ledge-handle.

2. Most Palestinian archaeologists of today have probably given up this view, because of the steadily increasing mass of evidence proving that the Palestinian history of the handle in question ran a course very similar to that of the Egyptian parallel. Our stratification proves this quite conclusively, as will be seen on comparing pl. 1, nos. 7-8 (both photographed upside down), 25, and pl. 2, no. 16c, with pl. 3 (I level), nos. 38-40 (all photographed upside down), and pl. 4, nos. 35, 39 (both upside down). Illustrations from our site could easily be multiplied, but we have restricted ourselves to a selection from the characteristic sherds found in the stratified area of J excavated in SE.

3. In 1917 Karge reacted strongly against the attempts of Macalister and Watzinger to separate the Palestinian wavy ledge-handles from the Egyptian (see his *Rephaim*, pp. 226-37). Recognizing the chronological difficulty created by the difference of "nabezu ein Jahrtausend" between the latest predynastic Egyptian pottery and the oldest Bronze Age ceramic of Palestine (a difference which we shall eliminate—see below), he was still convinced (p. 237) that there was a real dependence of one type upon the other, because of the identity of the handles and the remarkable similarity of many of the large jars on which they are found, a similarity which includes the form of the vessel (with flat bottom, etc.), the position of the handles, and the form

of the neck, as well as the painted net-design which often occurs. He correctly inferred that the historical connection must be formed by the then unknown ceramic of the Delta.

4. Having discovered the Palestinian wavy ledge-handle before his discovery of the corresponding Egyptian type, Petrie concluded that the former must be original. He set up the paradoxical theory that the type of jar bearing this handle was introduced from Palestine into Egypt about SD 40, which Petrie dated between 7500 and 6500 B. C. In 1924 Frankfort expressed the same view, holding that the jars in question were imported from Palestine into Egypt as olive oil containers, and that their importation stopped about SD 62, some time before the beginning of the First Dynasty (*Studies in Early Pottery of the Near East*, I, pp. 104 ff.). He was followed by Scharff, *Das vorgeschichtliche Gräberfeld von Abusir el-Meleq* (1926), p. 18 (also *Grundzüge der ägyptischen Vorgeschichte*, 1927, p. 31 ff.), who showed convincingly that this class of pottery came to Middle and Upper Egypt from the Delta. Scharff brought additional arguments for an ultimate Palestinian origin, and thought that the chronological differences might be ironed out by reducing the date of Menes to about 3000 B. C., and at the same time raising the upper limit of the wavy ledge-handled pottery in Palestine. In 1928 Miss Hertz reacted against the theory of Palestinian origin in a paper published in the *Wiener Zeitschrift für die Kunde des Morgenlandes*, 35, 66-83. Though many of her arguments were irrelevant, she came to the not unreasonable conclusion that the type in question was borrowed by the Palestinians after SD 75, when the net design made its appearance in Middle Egypt. It is, however, true that the jar-form most closely resembling the Palestinian examples went out of use about SD 66 (Petrie, *Corpus*, pl. XXVIII, no. 19) in graves, but we shall presently see that it may well have continued in domestic use in the Delta somewhat longer. In 1929 H. Junker (*Giza I*, 120 ff.), following a paper in the *P. W. Schmidt Festschrift* (1928, p. 881—inaccessible to me), maintained strongly that the wavy ledge-handled jar was of Lower Egyptian, and not of Palestinian origin, and also pointed out new evidence that this type of jar may have continued somewhat longer in use outside of tombs. Since nothing whatever is known directly about the prehistoric and early historic pottery of the Delta, it is also more than likely that here, on the northern edge of the Egyptian cultural area, this archaic type maintained itself somewhat longer than SD 66, perhaps until SD 75-80. By that time the First Dynasty was on the throne; the date of the accession of Menes is probably to be placed in the twenty-ninth century (over a century after Scharff's date; cf. *ANNUAL*, VI, 72 f., and Scharff, *Grundzüge*, p. 46 ff.). Should this correction of Egyptian chronology be right, we would be able to

suppose a borrowing by Palestine between SD 66 and 80, i. e., in the thirtieth or twenty-ninth century B. C. at the latest, or 3000 B. C. in round numbers.

5. The evidence from Palestine itself is entirely in favor of our tentative conclusions that the wavy ledge-handled jar originated in the Delta and was borrowed about 3000 B. C. and that its geographical extension northward was limited, as might be expected from the fact that the borrowing was sporadic and did not form part of a great northward stream of ceramic influence. Until 1929 nothing was really known about the culture of the chalcolithic (aeneolithic) in Palestine. What was formerly called "neolithic," in a very loose manner, has since turned out to be generally EB or MB. In that year Mallon and Neuville began work at the purely chalcolithic site of Tuleilat el-Ghassûl in the Jordan Valley, opposite Jericho, east of the Jordan. In three campaigns four strata of occupation have been found, with practically homogeneous pottery, evidently covering several centuries of settlement. A few specimens of the pottery have been published in Mallon's provisional reports in *Biblica* (1930, 3 ff., and plate 4; 1931, 257 ff.). I have seen most of the pottery discovered in the first campaign, from the top stratum, as well as part of that exhumed in the second campaign, and have no hesitation in stating with entire confidence that this pottery is as a whole (isolated sherds from later ages may, of course, have been found on the surface, though I did not see any) purely chalcolithic (neolithic). Aside from a few simple forms, which continue with little change down into the early second millennium, and were made by Mallon the basis for his chronology, there is nothing characteristic of EB, but there are a large number of peculiar types which are nowhere else found in a certain EB context. Nor can it be said that this is local ware. Quite aside from the fact that such local ware would be unparalleled, is the fact that the chalcolithic of Ghassûl (Ghassulian) has also been found by Turville-Petre in Galilee and by Miss Garrod south of Carmel, in both cases in the earliest pottery-bearing stratum. Macalister also found a few specimens at Gezer (G III, CXLI, 1-4, etc., CXLIII, 1-2), which he dated far too late, since he did not obtain clear stratification in his lower levels. On the other hand, the EB of southern and central Palestine is absolutely homogeneous, and invariably contains wavy ledge-bandles, as at Tell el-Hesi and the mounds of the Shephelah, Gezer, Bâh ed-Drâ', southeast of the Dead Sea. Jericho, Ai (et-Tell), Tell en-Naşbeh, Jerusalem, Taanach, Megiddo (MF 4), as well as in many other sites in Western Palestine (south of Galilee) and Eastern Palestine (south of Haurân), which have been examined in my surface explorations. North of Esdraelon the wavy ledge-handle disappears almost completely, and is not found, for example, at the great EB-MB I site of Beth-yerah (ANNUAL VI, 27 ff.) except rarely, and then in a degenerate

form. The degenerate form of the ledge-handle appears southeast of Damascus and northeast of 'Ammân, as we shall see in Chapter II. The absence of the wavy ledge-handle north of Esdraclon is the more remarkable that typical EB pottery, hardly distinguishable from that of southern Palestine, is found as far north as the plain of Lādhiqiyeh in northern Phoenicia and the Orontes Valley further east. I have found it on scores of sites all over Syria, south of this boundary, north of which we come to Anatolian and Mesopotamian ceramic provinces. We must, therefore, conclude that the wavy ledge-handle was borrowed from Egypt at the beginning of EB, but that it only penetrated one-third of the way northward through the domain of Syro-Palestinian EB culture, the farthest penetration being naturally exhibited by the latest degenerate forms of the ledge-handle, shortly before this form of handle fell into disuse everywhere (cir. 1800 B. C.).

6. The backward extension of EB to the time of the First Dynasty in Egypt (i. e., to before the twenty-eighth century at the latest) is proved by several sherds with typical EB pattern-combing which were found in the royal cemetery of Abydos by Petrie (cf. especially *Royal Tombs*, I, plate XXXVIII, no. 9), and were correctly identified by him with the "Amorite" ware of the same kind which he had discovered in the lowest stratum at Tell el-Hesî. Petrie does not say in which tomb the sherds were found, presumably from the later tombs, dating from not later than the twenty-eighth century. The "Syrian" pottery discovered by Petrie in the Royal Tombs is still enigmatic, in spite of Frankfort's valiant efforts to identify it (*op. cit.*, p. 108 ff.). On the other hand, the net-burnishing of the sherd illustrated by Frankfort on plate X, 1, opposite p. 106, is good Syro-Palestinian EB; I have found sherds showing an identical net-burnishing at Beth-yerah on the Sea of Galilee and elsewhere. We have, therefore, clear evidence for a backward extension of EB to before 2800 B. C., so our provisional date of the transition from chalcolithic to EB may safely remain at cir. 3000 B. C. Since there is no clear evidence with regard to the sequence of types within EB, it is clearly too early to subdivide the period. Following Gjerstad (SPC 262 ff.) I have tried to distinguish three sub-periods of EB, and to assign our stratum J to EB III, but the evidence is at present insufficient to warrant definitive conclusions.

7. On plates 1 and 2 are collected samples of all the main types of EB pottery found in the J stratum. This ware is identical for the most part with Watzinger's *Kanaanitisch* at Jericho (J 97 ff.; plates 20, 21 [which contains some later objects], 22 F 1), as well as with most of the pottery from Bâh ed-Drâ' (which will soon be published; cf. *ANNUAL VI*, 59 f.), some of which is slightly later. The outstanding type has already served as our text

above; it is the large jar with wavy ledge-handles, a flat base, a slightly flaring mouth, and nearly always with net or vertical band-ornament, painted in reddish brown (cf. pl. 1, nos. 9, 17, 30; 2, nos. 3, 6, 7, 11, 16). The vertical band-painting is particularly common, and is closely related to the vertical band-slip of Beth-yerah and other sites in Galilee, southern Syria, and Ḥaurān (for this technique at Beth-yerah see provisionally ANNUAL VI, 29; I have since found it at numerous other sites in the territory already mentioned). The band-slip of Beth-yerah also occurs only on large jars, generally of the store-jar (pithos) type, with flat bases, but without wavy ledge-handles. Other jars found in our J stratum are decorated with comb-facing, to employ Petrie's designation. The comb-facing is sometimes plain, as in 1: 3, 14, and 2: 2, and is sometimes pattern-combed, as in 1: 5, 15, 2: 1. Pattern-combing also occurs somewhat later than J, to judge from some isolated specimens such as 5: 9 (H, but possibly intrusive) and 13: 38 (with MB sherds). Since both these sherds, like others found in undatable débris, exhibit a finer combing than our J sherds, one might be tempted to date them later (cf. Macalister, G II, 134), if it were not for the fact that all the sherds with fine pattern-combing, like innumerable specimens of identical character from Beth-yerah, are thinner, and belong to smaller and less coarsely made vessels (also with flat bases). At all events, we must with our present evidence consider it as certain that the fine and coarse pattern-combing are contemporaneous (see above, § 6), and as probable that the fine pattern-combing lasted somewhat longer, presumably into the nineteenth century (H level). The mouths of the large jars of stratum J are generally more or less flaring (1: 22, 2: 16 a) or are of the so-called hole-mouth type (cf. 1: 1-4, 18), as in Watzinger, J 97, and plate 20, A 1; the hole-mouth, however, generally belongs to cooking pots, also with flat bases, but much shallower. The cooking pots of EB seem nearly always to have been of the hole-mouth type. Large jars are also often decorated with rope-moulding around the shoulder or neck (1: 5, 6, 10), as in Watzinger's *Kanaanitisch* (J 100, D 1; cf G II, 147).

8. Turning from the large jars of the preceding paragraph to smaller vessels, we come first to the bowl with inverted (turned in) rim and flat base (1: 24, 27). The bowl in question was nearly always smeared with a thick red ocher (haematite clay) slip, which was continuously burnished, i. e., the burnishing tool was applied in short strokes, running in all directions, so as to produce a continuous effect. The slip is generally very thick, producing a rich appearance which is very easily distinguished from the thinner slip of the MB. In baking, this thick slip often cracked, producing innumerable fine cracks in the smooth dark-red surface of the burnishing. Most sherds of these bowls have lost part, sometimes most of their burnishing, since the slip



showed a tendency to break or peel off when roughly handled. Such bowls with red slip, flat bases, and inverted rims are found in all EB sites of Palestine, Transjordan, southern and central Syria which I have examined; cf. Watzinger, J 101, E 10; Petrie, TH, pl. VI above; BBSA, No. 2, pl. VI, nos. 11-13 (Tell el-Qassis), etc. Patterned burnishing is also fairly common, but we have not as yet found any certain examples from stratum J. Plate 3: 19, 20 belong to I, while 13: 45 may be MB, since the rim is of a latish type. We must distinguish between the bowls with inverted rims of the kind just

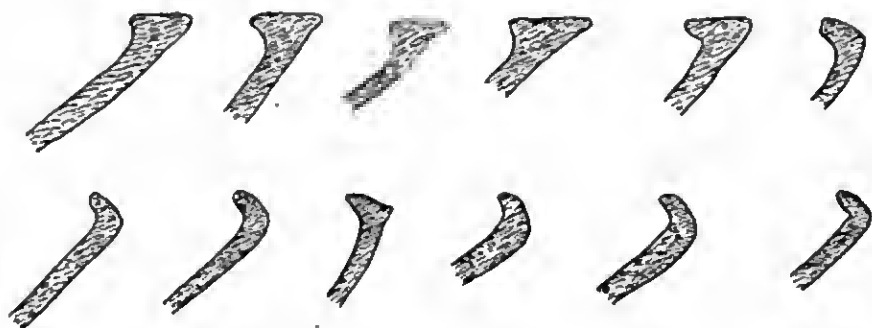


Fig. 1

described and the MB-LB bowls with inverted rims of the sort illustrated in fig. 8, below (cf. Chapter III, § 35); the former certainly died out all over Palestine during the first century or two of the second millennium (see below). The broadening of the rim at one point in 1: 27 is common in the EB of southern Palestine. From examples found at Bâb ed-Drâ' (fig. 1), it follows that the original purpose of this broadening of the rim at certain points was to enable a hole to be pierced through the rim; such holes served probably for the attachment of a lid.

8A. Thick-rimmed cooking pots are illustrated in 1: 20 and 21. The former has a slightly profiled rim, decorated with combing above and with an incised line below. The latter is of the hole-mouth shape, but has a flat-tish rope-moulding on the outside, below the edge of the rim; the type is fairly common. Of the remaining types illustrated by the sherds of J we may mention 1: 12, the wall of a jar with closely meshed net-design in reddish brown paint; 1: 16 and 2: 4, with simple incised designs; 1: 26 and 2: 8, small jugs with a band of oblique notches running around the shoulder or the base of the neck; 2: 5, a fragment of the wall of a small jug with vertical band painting. Plate 2: 14 calls for additional comment; it is the short cylindrical spout of a bowl, below the rim of which it projects more or less horizontally, as in Watzinger, J 101, E 12. This type of spout is found all

over the ancient Orient in the third millennium. For Egypt cf. Junker, *Giza* I, p. 117, and fig. 12, nos. 1-6, with the reference to Bonnet's discussion of the origin of the various forms of side spouts. Both the beak form (Junker, no. 1) and the pipe forms (Junker, nos. 2-6) are found in Palestine; the former is illustrated, e. g., by a beautiful example from Bâb ed-Drâ' (which will be published later), while the latter may be illustrated by our specimen, as well as by Petrie, TH, pl. V, nos. 12-16, Bliss; THB, pl. 3, no. 85; Watzinger, J 101, E 12. It is noteworthy that the beaked side-spout occurs also in Babylonia during the third millennium (picked up by the writer in several specimens from the site of Eridu in southern Babylonia). Distantly related to the beaked spout is the "teapot-spout" found in abundance in Anatolia (Kül Tepe, etc.) in the age of the Cappadocian tablets (twenty-first—twentieth centuries B. C.). The Palestinian side-spout was probably borrowed from Egypt, where it has a long history, beginning, like the wavy ledge-handle, in the Predynastic Age; in Egypt it apparently reaches its climax in the Pyramid Age, after which it slowly dies out (last in the Middle Empire), while it remained in use in Palestine down to the beginning of MB, and degenerate specimens still occur as late as stratum G (6: 19). For the chronology of Palestinian pottery it is interesting to note that Junker's material belongs to the Fourth Dynasty (i. e., to the twenty-sixth—twenty-fifth centuries B. C., according to our chronology).

9. We cannot give an exact date for the end of the Early Bronze in southern Palestine. Up to the present, however, no scarabs have been discovered in undisturbed tomb-groups of EB. Since Middle Empire scarabs have been found in profusion in nearly all MB tombs so far excavated, this fact seems to prove at least that EB came to an end not later than the early twentieth century, when Egyptian scarabs began to be imported into Palestine (from the time of Sesostri I, cir. 1975-34 B. C., on). Unfortunately, there is no direct resemblance between Egyptian pottery of the Twelfth Dynasty (for which see vols. XXV [*Riqqeh*], XXVIII [*Harageh*], XXXIII [*Lahun II*], L [*Qau and Badari III*], of the publications of the British School of Archaeology in Egypt, by Petrie, Engelbach, and Brunton) and Palestinian EB or MB I, so a comparison does not help. There is, however, clear evidence that black piri-form juglets of the Tell el-Yahûdiyeh type (see below) were imported into Egypt during the first half of the Twelfth Dynasty (see Junker, *Der nubische Ursprung der sogenannten Tell el-Jahûdiye-Vasen*, p. 55 ff., 81 ff.). Since these vases are one of the most characteristic type-forms of MB, this at least suggests that the I-II levels, where this type first occurs on our site, are not later than the period of the Twelfth Dynasty (see below, § 23).

## CHAPTER II

### STRATA I-F (MIDDLE BRONZE I)

10. Strata I and H, G and F, fall into two clearly demarked cultures, so far as the pottery is concerned. It is true that so many types last through all four strata that we may conveniently group them together in our discussion. On the other hand, there are a number of characteristic types which are found in I-H, but which disappear before G, while a certain change may be traced between I and H. At the end of the group I-F we have an important shift in characteristic types of the common pottery, though the imported vases remain much as they were. This shift, which must have taken place in the eighteenth century B. C., we treat as the transition from MB I to MB II. It was then that the last characteristic types of EB disappeared. It was not everywhere possible to distinguish by stratification between I and H. Where this was possible without making any assumptions with regard to the types to be selected, but guided only by the evidence of the conflagration levels, we have kept them apart; otherwise the sherds of the two periods are not separated.

11. The most characteristic feature of the pottery of the I-F strata, which continues with no perceptible change through the four periods, is the peculiar combed decoration, consisting of horizontal and wavy hands of combing, together with oblique, vertical, and horizontal rows of notches. This is found in I (plate 3), I-H (plate 4), H (plate 5), G (plates 6: 22, 7), and F. Strange to say, hardly any trace of this pottery has yet been found elsewhere in Palestine except at Jericho, where it is characteristic of the *Spätkanaanitisch* of Watzinger. This class of pottery at Jericho is found only in the "light blue" level, between the older "dark blue" (with pottery like ours of J) and the later "red" (with MB II pottery, like our E-D) strata. The similarity extends over nearly all forms described by Watzinger; we may single out at this point the folded wavy ledge-handle, which occurs at both Jericho and Tell Beit Mirsim exclusively with our combed decoration. Detailed comparisons will be given below. The only other vase so far found in Palestine which really shows identity with our hand-combed caliciform vases is one discovered by Mallon at el-Matâbe', east of the Jordan, opposite Jericho (*Biblica*, 1929, p. 226 f. and plate III, 2). This vase has a "patine jaune clair," which seems to correspond to the cream or gray color of most of the vases in question from Jericho and Tell Beit Mirsim, and is decorated with two horizontal hands of combing, between which are three wavy hands of combing. Most interesting is the fact that it was discovered in a dolmen

of the latest type, thus proving conclusively that this class of dolmens, related to the burials of Bâb ed-Drâ', was employed down to the beginning of the second millennium B. C.

12. Turning from Palestine to possible foreign relationships, we find analogies both in Egypt and in Syria. In Egypt a somewhat similar class of pottery appears in the Second Intermediate Age, between the Twelfth Dynasty and the Eighteenth Dynasty. This pottery was first distinguished and pub-



Fig. 2

lished in corpus form by Brunton in 1926-30 (*Qau and Badari III*, p. 10 ff., pl. XII-XVIII). Brunton has established the date partly by the scarabs and other objects found in the graves, which are clearly Thirteenth Dynasty and Hyksos in date, and partly by a sequence comparison of the pottery in question with known Twelfth and Eighteenth Dynasty types. The straight and wavy bands of combing and the rows of notches (called "scrabbles" by Brunton) are never found in the Twelfth or Eighteenth Dynasties; Brunton's best illustrations of possible analogies show how correct his statement is by their weakness. The best parallels are found in the case of jugs (pl. XV: 36 N, 40 M, 42 F, 42 K, XVII, 72 F ff., 75 K, XVIII, 40 M, 42 F, 42 K). The similar decoration in the inside of shallow bowls is not found in Palestine. The scarabs belong to the Thirteenth Dynasty and Hyksos period, as is shown by their character and by such Semitic names as that of the chancellor Hâr (cf. JPOS 1931, 114, n. 1) and the "king's son" 'pq. Several of the scarabs found with this pottery are identical in type with scarabs from our stratum D (see below, Chapter III, § 45, fig. 5-6). Since we shall presently see that our class of pottery has analogies in Syria, where this type of incised decoration has a longer history, beginning with the Early Bronze of Mesopo-

tamia (Assur G, etc.), we are probably correct in supposing that it was brought into Egypt from Palestine, before the end of its history in the latter country. Since it precedes the introduction of typical pottery of the kind associated with the Hyksos, such as the Tell el-Yahūdīyeh piriform juglet, into general use in both Jericho and Tell Beit Mirsim, we must perhaps suppose that it entered Egypt with a pre-Hyksos (i. e. pre-Fifteenth Dynasty) Semitic movement, such as we have reason to infer from other evidence. In Egypt the new types were generally given up, and the decoration was transferred to native forms. Points of contact are, however, by no means restricted to the decoration. The forms of the bowls in Brunton, pl. XII, nos. 6 C—9 P are obviously of Asiatic origin; cf. especially nos. 9 E-F, K. Frequent on bowls is also the ribbed rim (nos. 5 B-V, etc.), which is also characteristic of our I-F periods; cf 3: 14-15, 4: 1 ff., 5: 27 ff., 6: 24 ff. The Egyptian material only gives us a *terminus ante quem* for the introduction of this type of pottery into Egypt, not later than the middle of the eighteenth century; it naturally throws no light on the duration of time during which the Asiatic prototypes were in use.

13. Turning to Syria, we are unable to do more than to point out a few parallels, since the material nearly all comes from the excavations of du Mesnil du Buisson, only a small part of which has yet been published, and that only in tentative form, for the most part. In his work at el-Miṣrifeh (ancient Qatna) he found in 1927, among MB pottery, a large fragment of the upper part of a jar bearing on its shoulder a series of alternate bands of incised decoration in band-combing, beginning on the side of the vase with a horizontal combed band, followed by a wavy band, another horizontal band, a wavy band, and finally, on the neck, a band composed of vertical rows of horizontal notches, as at Tell Beit Mirsim, Jericho, and Badari (see *Syria*, 1927, pl. LXXV, no. 37). The alternation of these three elements proves a relation. At Dnehi, etc., in central Syria, du Mesnil also discovered MB pottery standing in some relation to our class, as illustrated by caliciform vases and goblets with thin walls, decorated with incised bands of combing, generally straight horizontal lines. A summary discussion of du Mesnil's material from different sites, with an attempt at sequence-dating, will be found in *Syria*, 1930, 146 ff. (cf. especially p. 153 and pl. XXXII, no. 8). It is important to note that caliciform vases and goblets of the same general type are also found in the first three tombs of Byblos, published by Montet (*Byblos et l'Égypte*, *Atlas*, pl. CXVI, CXVIII, no. 802), and dating from the end of the nineteenth century and the beginning of the eighteenth (reigns of Amenemmes III and IV, cir. 1844-1787 B. C.).

14. The pottery known (from its position with regard to the conflagration

levels separating it above from II and below from J). to belong to stratum I is represented in selection on plate 3. Nos. 1-3 belong to large amphoras, with flaring mouths, and generally with two lug-handles of EB type, like nos. 22-3. The form is shown by the outline drawing of a specimen from the lowest construction level at the East Gate (plate 45: 2), which may, however, belong to G, from which this level apparently dates, to judge from its relation to the G city-wall. Watzinger, J 108, fig. 94, belongs to the same class. Nos. 4-5 belong to the upper part of the wall of caliciform vases or goblets like those discussed in the preceding paragraph. No. 7 is a fragment of a small jug with the usual incised decoration. No. 8 is the flaring mouth of such a jug. Nos. 9-12 come from the wall of large vessels like nos. 1-3. Nos. 14-5 are rims of jugs, exhibiting the ribbing already discussed above in connection with Egyptian parallels. Ribbed or grooved rims are also found in the late EB or MB I of central and northern Syria, where I have found it in a number of sites. In the latish EB of Bâb ed-Drâ' ribbed bowl-rims are exceedingly common. While this EB ribbing is not quite identical, there is a close relationship, which will be discussed in connection with the publication of the pottery of Bâb ed-Drâ'. No. 16 exhibits plain, fine combing, which increases in popularity during the MB of Tell Beit Mirsim until it attains its maximum in the D stratum, after which it dies out rapidly. Nos. 18-20 are rims of bowls covered with haematite slip, and with pattern-burnishing; in form they are hardly distinguishable from the typical inverted bowl-rims of EB (see fig. 1 in § 8). This type of bowl-rim died out during the I-H period, and was replaced by the inverted ribbed rim, which first appeared in I (nos. 24-5), and maintained itself down to F, when it, too, ceased to exist.

15. Nos. 26-31 on plate 3 represent the first emergence of the typical cooking pot rim of MB I, characteristic of strata I-F on our site. In E-D it is replaced by a cooking pot rim in which the holes are omitted, while the raised band becomes much more elegant. The holes were probably intended for the purpose of allowing steam to escape, since the heavy pottery lid would otherwise be blown off and broken by the force of the escaping steam. These cooking pots were shaped roughly like the end of a barrel, and had flat bottoms (nos. 41-42): for further discussion see below, § 22. On plate 41, no. 6, a cooking pot of our type, belonging to stratum G, is shown in outline drawing. Nos. 32, 36-7 are loop-handles with smooth oval or round (no. 37) section. Such loop-handles, extremely rare in the EB of southern Palestine, now begin to appear in rapidly increasing numbers. By stratum G the ledge-handle has been entirely driven out. Nos. 33-5 are rims and walls of cooking pots of EB style, which do not disappear completely during MB, but in period D acquire the first hints of the profiled rim which was later to emerge, in the middle of

LB, on the characteristic LB-EI I round-bottomed cooking pot. In MB they still have flat bases and are practically indistinguishable from EB cooking pots (see § 7, end). Nos. 38-40 are degenerate wavy ledge-handles of MB I type (see above, § 1-2); the three handles are photographed upside down. Nos. 38 and 40 are both of the folded type, also found in period H, but gone before G. Identical folded wavy ledge-handles are common at Jericho in the "Late Canaanite" stratum which corresponds to our level; its occurrence there, together with the absence of imported forms such as are characteristic of our G stratum, suggests that the former is coeval with I-H, and earlier than G-F. The folded wavy ledge-handle is also found elsewhere in Palestine, and I have picked it up as far away as Ruseifeh northeast of 'Ammân, in a site dating exclusively from MB I. No. 39 is an interesting handle, standing half-way between the wavy class and the thumb-grooved class, found still in G (not figured); cf. BM, pl. 26, nos. 8-10 (the types are arranged in the wrong chronological order; see above).

16. Pl. 4, containing sherds which could be dated by conflagration-levels between stratum J and G, but which could not be apportioned with certainty to I or H, provides in the main only additional illustration of the types already described. Nos. 1, 43-4, 46, 48-50, belong to caliciform vases with the incised decoration already described above. Nos. 2-3 are the ribbed rims of smallish jugs, like nos. 14-15 on plate 3. Nos. 4-5 represent the first appearance of bowls with only slightly inverted rims, which become very abundant in MB; no. 5 is burnished with discontinuous strokes at right angles to the rim. No. 6 is an example of the cooking pot mouth with a concave (often beveled) groove inside the rim, to hold the lid; this type lasts down into the D stratum. Nos. 7-11 are the inverted and ribbed rims of bowls like 3: 24-5. No. 12 is like 1: 1-4 (J level); see above, § 7, end. No. 14 is a double-handle of the form which becomes characteristic of MB in general. Nos. 13, 15-8 are various types of loop-handle, all with smooth oval or round section. No. 19 is a side-spout (see above), open above. No. 20 shows the first appearance of the disc-base, which becomes common in stratum G, here of reddish brown clay, full of grits. Nos. 21-3 are various forms of jars with flaring mouths; no. 23 is decorated with an incised herring-bone band at the junction of the shoulder and the neck. No. 24 is very interesting, since it exhibits a painted design, vertical wavy lines alternating with straight lines, all in dull red on a reddish buff surface; the vessel has a flat bottom. Irregular alternation of wavy and straight lines in painted ornament appears first in the EB III of Palestine (UJ, pl. X, nos. 1-2, 4); for the date see SPC 302 f. Our sherd, however, already shows the developed technique of MB-LB, like Macalister, G III, CXLVI: 1-3 (First Semitic). No. 25 is a typical

rounded flat base of a smallish jar. Nos. 26-7 are again (cf. no. 20) disc-bases, characteristic of MB; no. 26 belongs to a jug, comb-faced on the wheel (wheel-making is also shown by the spiral wheel-marks on the base), while no. 27, with a hollow disc-base, belongs to a bowl.

17. Pl. 4, no. 28, is a sherd from the shoulder of a jug, just below the neck, which is broken off. A serpent, with the scales indicated by punctures (which were presumably filled with some shiny organic substance) is attached to its surface. Serpents, moulded in relief on the surface of vessels, which were probably always employed for cult purposes, are extremely common in ancient Palestine. Our earliest specimens come from the chalcolithic of Tuleilat el-Ghassûl. In MB they are abundant; specimens have been found, e. g., in our D level (plate 13: 27), in the corresponding level at Beth-zur, in the MB II of Beth-shemesh, etc. In the Late Bronze of Beth-shan they are also common. In nearly all cases we find the same punctures that we have on our two specimens from Tell Beit Mirsim. In Northern Mesopotamia we also find serpents represented in relief on cult-vases; cf. Andrac, *Die archaischen Ishtar-Tempel in Assur*, plate 21. For the significance of the serpent see the references given in APB 87 ff.

18. Pl. 4, nos. 29-33 are cooking pot rims of the MB I type already described. For a fuller discussion see below, § 22. Nos. 34-6 are folded wavy ledge-handles, all photographed upside down. Nos. 37-8 are like nos. 1-3 with nos. 22-3 in plate 3. Nos. 40-41 come from smaller jars with flaring mouths, otherwise of the same general type as the preceding; note the knob on no. 40.

19. Pl. 5, illustrating selected sherds of nudoubted H provenience, is in the main a repetition of stratum I pottery, with occasional emergency (which may be accidental) of later types. Nos. 1-6 are again our perforated cooking pot rims, while no. 7 is a folded ledge-handle (upside down). No. 8, with band-combing, comes from a large jar, while nos. 10-14 belong to caliceiform vases. No. 9 exhibits pattern-combing, but since it is otherwise not found with certainty in our levels, it may be that the sherd is intrusive, a possibility also suggested by its worn condition. No. 19 is the first appearance of a wide-mouthed jug with pinched lip which later (in MB II) becomes common. Nos. 20-1 are ribbed rims of small jars, as before. No. 22 is the flat base of a jug. Nos. 23-4 are also new, belonging to a type of thick-rimmed jug or pitcher which is common in later MB. No. 25 belongs to a small bowl, with disc-base, burnished in discontinuous strokes, outside and inside, as well as on the base. No. 28 is the inverted rim (MB-LB type) of a small bowl. Nos. 29-30 are small carinated bowls; no. 29 is much worn, but no. 30 is well preserved, and is a beautiful example of the type which became dominant in MB II, with



a buff outside surface neatly hurnished in close horizontal strokes. There can be no doubt that these beautiful little carinated bowls were not yet manufactured locally, but were imported from more important centers, perhaps on the coast of Palestine. No. 31 is a broken flint knife, of the usual Bronze Age form. Nos. 26-7, 32-34 are again like 4: 7-11.

20. In stratum G we reach a level where we find a city wall and a well-preserved house. The pottery here illustrated (plates 6-7 and 41: 1-6) all comes from the courtyard of a house in SE 33, and is all rendered certain stratigraphically by the fact that the house had been destroyed by fire when the city was overthrown, and all the pottery and broken sherds were found in or under the ashes. The upper level is fixed by the fact that the courtyard had a hard earth floor, above which all the pottery was collected. Stratum G therefore forms a very valuable *point d'appui* for our relative dating, since we are here never in doubt as to the ascription of a sherd. Plate 41: 1, 3, 4-5 are all imported bowls of the so-called carinate type. No. 1 is covered with a hurnished cream slip. No. 3 exhibits a combination of horizontal combing (on the wheel) with vertical burnishing on a red slip (hand-made). No. 4 was a small-mouthed bowl, with black slip, continuously burnished with horizontal wheel-strokes. No. 5 is finished like no. 3, with horizontal combing (on the wheel) and vertical line-hurnishing on a red slip. Small carinated bowls appear also in numbers among the sherds photographed on plate 6. No. 9 is the rim of such a bowl, continuously burnished in highly skilled technique, on a dark red slip. Nos. 34-41 were all hurnished on a red slip originally, though in several cases the vase has suffered so much from exposure to smoke (during the conflagration) that the original color of the surface is hardly visible. Nos. 42-3 are of the same type, burnished on a red slip. Nos. 47 and 49 belong to similar bowls, continuously hurnished on a cream slip. No. 57 is a slightly larger carinated bowl with a small trumpet-foot. Nos. 61-4 are disc-bases of carinated bowls of various sizes; no. 64 has vertical lines of burnishing on the sides. The disc-bases, whether flat or concave, are now nearly always smoothed with the hand after being made on the wheel, so as to remove the wheel-marks and give an illusion of metal work. The hurnishing was, of course, intended to produce the same metallic effect. It is not necessary to discuss these carinated bowls at length, since the type is exceedingly well known, and there has never been any doubt as to its date. Our data show that they were first imported into this part of Palestine in I-H, probably in the early part of this period, but that they did not become acclimated, so to speak, until period G, when they are abundant and attain forms never surpassed in beauty later. Carinated bowls abound in the Middle Hittite of the Carchemish region in northern Syria, but the origin of this type is still

obscure. It was not at home in Egypt or Cyprus, so a mere process of elimination would suggest a Mesopotamian provenience. In fact, it was common in Babylonia during the Cossaeon period (Reuter, *Die Innenstadt von Babylon*, p. 14, fig. 9), but since the houses in which it was found by the German excavators are dated by tablets to the fourteenth-thirteenth centuries, after the type in question had been replaced by others in Palestine, not much can be said with regard to its possible Mesopotamian provenience. The observations of Watzinger (J 130 ff.) are no longer germane, since he has corrected his chronology so as to throw the period of the "red" city nearly a thousand years earlier. It may, of course, be that the pottery in question originated in Syria itself, in imitation of metal vases of Mesopotamian origin, but the latter have yet to be found.

21. Plate 41: 2 is the lower part of a pointed, one-handled jug, with red slip, burnished in vertical strokes. The same type is illustrated in 6: 6-7 and 30-1, both of which have lost all trace of burnishing. Other fragments are 6: 48 (red burnished), 55-6 (surface worn away). No. 30 illustrates the pinched lip which is invariably characteristic of this type. The vase in question is characteristic of the entire latter half of MB, but rapidly dies out, as we shall see, in the early LB, being replaced by a type exhibiting superficially much the same appearance, aside from less grace, but showing traces of vertical paring with a knife all around the body.

22. The most characteristic single type of MB I, which may safely be used in order to determine the scope of this period, is the flat based cooking pot, plate 41: 6, with holes above the band of rope-moulding. Further examples of rims and bases are illustrated in 7: 1-10 and 6: 65-6. The form and use have already been described in § 15. This type spanned strata I-F, and was replaced in E-D, as already noted, by one without the holes. Intervening stages of development show holes which do not penetrate through the wall of the vessel. Ubiquitous though this type of pottery is, being found in all sites of the MB I in southern and central Palestine, such as Jerusalem, Jericho, Ai, Bethel, Tell ed-Djerîseh, etc., it has so far almost escaped attention, or has been erroneously referred to the neolithic age, that limbo of the Palestinian archaeologist (cf. APEF, IV, pl. XVIII, 1-2, and XIX, 1). Following are some published occurrences: in the mounds of the Shephelah, BM, pl. 28, no. 11; Tell el-Fâr'ah, where Petrie assigned it to the period of the "Sixteenth Dynasty" (judging from CPP, Decorated Fragments, 4, A 15'), i. e., to the age when carinated bowls of the type described in § 20 were at their best; Jericho, J 66 (? perhaps of the later D type, without holes), Bethel, *Bulletin*, No. 29, p. 10 (sherds from the lowest level, i. e., MB I). At Tell ed-Djerîseh on the coast, northeast of Jaffa, Sukenik found numerous sherds of this type,

together with piriform juglets, and other characteristic MB forms, in his trial excavation in 1927 (oral communication). In Grant's lowest stratum at Bethshemesh, in cavities in the rock, sherds of this type also appeared. In connection with the date, it must again be emphasized that dependence cannot be placed upon the amount of grit in pottery clay ("paste") as a sign of age, unless there are other criteria to guide one. Cooking pots of EB-EI II always have a great deal more grit than other classes of pottery; the grit was deliberately mixed with the potters' clay in order to provide a *degraisant*, to keep the vessel from cracking under the strain of heat. Our cooking pots are literally stuffed with grit, often of comparatively large size. On the other hand, some of the finer carinated bowls are made of just as finely levigated clay as any used in the Greek period.

23. The remaining types illustrated by the sherds in pl. 6-7 may be disposed of rapidly, since most are no longer new, having appeared in previous strata of MB. 6: 1-5 are handles with smooth oval section, belonging to large amphoras, probably of the type with rims like nos. 10-12, 14. Nos. 1-2 illustrate the typical feature of MB pithos and amphora handles: the handle thickens as it descends toward the body of the vessel, so that there is hardly any inward curve at the junction. Nos. 6-7 and 8-9 have been described above. No. 13 is the rim of a cooking pot with a beveled groove inside the lip; see above, § 16, on 4: 6. Nos. 15-8 are rims of jugs with flaring mouths, as above, § 16, on 4: 21-3. No. 19 is a late occurrence of the pipe-spout below the rim, discussed above, § 8. No. 20 is a cooking pot rim like no. 13, but broader, and flat instead of beveled. Nos. 24-9 are ribbed, inverted rims of the type discussed above, and very characteristic again of all the periods described in this chapter. No. 32 seems to be a pipe-spout. No. 33 is part of a two-handled jug with the lug-handles of 3: 22-3 and 4: 37, etc. This EB type also dies out at the end of MB I, before which it seems to become increasingly rare. Nos. 34 ff. have been described in § 20. Somewhat similar are the curious bowls illustrated as nos. 44-6, 53. No. 44 shows the inside and outside of a continuously burnished red-slip bowl with straight vertical sides, and with a series of knobs projecting from the outside, about 1 cm. from the rim. No. 45 is a sherd of a similar bowl, while no. 46 is one from a larger bowl of the same kind, with an unburnished red slip. No. 53 is a knob from a bowl like no. 45, but larger. For similar knobs cf. Macalister, G III, CXLIX: 19-22, 25, who assigns them to his First Semitic. Nos. 50-1 belong to the walls of fairly large jars; no. 50 exhibits vertical lines of burnishing on a cream slip, while no. 51 substitutes red for the cream. No. 57 has already been mentioned in § 20; the type becomes very common in D. Nos. 54 and 60 belong to the lower part of black burnished piriform juglets with button-base (the so-called

Tell el-Yahūdiyyeh type, which here emerges for the first time with certainty). The upper part has a long neck with a double handle. The double handle appears already (on a larger vase) in the I-II period, so that it is quite likely that the Tell el-Yahūdiyyeh type was already known. This vase appears in Egypt in the first half of the Twelfth Dynasty, i. e., before 1900 B. C. No. 58 comes from the wall of a jug, and is discontinuously line-burnished. Nos. 61-4 and 70 have been mentioned above, in § 20; all are disc-bases of carinated bowls. Nos. 65-6 have been mentioned in § 22; nos. 67-9 are flat bases of jars, probably of the flaring mouth type, as in 6; 16 ff.

24. In plate 7 only the bottom row requires attention here, since the cooking pot rims and incised decoration have been discussed in §§ 22 and 11, respectively. No. 32 is the only example photographed of a technique which was very common in MB I, and is illustrated by sherds found in the lower strata all around the mound. It is the neck of a jar covered with a white wash (which comes off when the surface is briskly rubbed or washed), painted with horizontal bands in orange, red, and black. No. 33 is a sherd with a buff surface and a curved band of matt red paint. No. 34 belongs to a carinated bowl with a creamy-gray surface, burnished on the outside; it is painted with a broad horizontal band of brown, under which is an unclear design in red, both of which receive a lustrous effect from the burnishing. No. 35 is the shoulder of a jar, with a gray surface, decorated with a broad painted band in matt red.

25. The following F stratum is so badly preserved, and generally so thin that it was rarely that one could be absolutely sure of the stratigraphic attribution of pottery. The only complete vase which may be ascribed to it with any confidence is the black piriform juglet represented in plate 41, no. 7. The potsherds remained identical, on the whole, with those of G, all of whose main types continued into F: e.g., the cooking pot with rope-band and holea below the rim, the thin-walled caliciform vases with incised straight-and-wavy-line decoration, bowls with inverted, ribbed rim, etc. The duration of period F was certainly very short.

26. In my preliminary accounts of stratum G (with which F must be included) I stressed the resemblance between our G pottery and the contents of Macalister's cave 28 II at Gezer, which is very fully described G I, 111-41, and III, pl. XXXII-XLII, as well as by Vincent, RB 1924, 161-85. It is true that the common types referred to again in § 25 are not found in the tomb, but it is precisely such every-day pottery that we miss in tomb-groups, as is well known. However, I am now convinced that G is rather older than this tomb, as was correctly seen by Vincent, who dated the tomb between 1800 and 1600, with Macalister, while our G level was dated by him in the nine-

teenth century (JPOS XI, 112 f.; APB 84 f.). Some of Macalister's pottery is earlier, but does not belong to the necropolis at all, as is certainly the case with G III, XXXII, nos. 1, 12. On the other hand, so much of the pottery of the Gezer necropolis is identical with, or very closely parallel to our E-D ceramic that it belongs with the latter, rather than with our G-F. After going over all the material offered by Macalister and Vincent again, in the light of the new material collected by Reisner and Petrie for the chronology of Thirteenth Dynasty-Hyksos scarabs, I have no hesitation in assigning cave 28 II to the period between 1750 and 1600). The scarab no. 23 which Macalister thought was a corrupt copy of one of Sesostri III, has really no connection with it; on the other hand, nos. 14 and 29 are typical of the Hyksos period in Palestine. G-F must be dated earlier, just as E-D must be dated to the same or a slightly later period (cf. § 33). On the other hand, the tomb-groups from Byblos, referred to in § 13, are prior to the introduction of the carinated group into funerary use, a process which may have required some little time. Since they date from the second half of the nineteenth century, and may extend into the beginning of the eighteenth, we are warned against going too far back for our G stratum, with its wealth of carinated forms. It is too bad that we have no tombs from G at Tell Beit Mirsim, but we may safely suppose that they would contain relatively few, if any, carinated vessels. The end of period G, to which most of our pottery from this level belongs, must probably, therefore, be pushed down into the eighteenth century, while the end of F, which came shortly afterwards, may be dated provisionally about the middle of the eighteenth century—B. C. 1750 in round numbers.

## CHAPTER III

### STRATA E-D (MIDDLE BRONZE II)

27. The occupants of Stratum E constructed an entirely new fortification system, based on the northern (Anatolian?) principle of cyclopean revetment (glacis) on which an adobe brick wall is superimposed. Strata E-D show the emergence of a feudal state of society, with sharp social cleavage (APB 85-91), and is to be dated in the Hyksos period, which began about 1750 B. C. in Palestine, after the great barbarian irruption. Since I expect to discuss the question again in another place, utilizing new material discovered by Sethe, Thureau-Dangin, and others, we need not go into detail here. Our pottery chronology is established in this case quite without reference to our historical theories, however well grounded they may appear to be. The pottery of E is very difficult to distinguish from D on the one hand, as well as in certain cases from F on the other. Only two relatively well preserved vases were found which may safely be ascribed to stratum E, plate 41: 8-9. No. 8 has a buff surface, with no trace of slip or burnishing left; no. 9 is grayish buff, with a red burnished slip (the vessel had to be reconstructed from the base, rim, and a piece from the middle, but the height cannot be more than five percent off). Both these vessels are particularly interesting because they show the same inside groove in the rim which is so common in period G (cf. 41: 3, 5). This fact suggests, though it does not, of course, prove, that the end of the E period came soon after the end of G, whereas there was a considerable gap between the end of E and that of the following D. From stratigraphic indications the same likelihood had already presented itself.

28. With stratum D we come to the best preserved stratum on our site, outside of A. A considerable amount of pottery, both complete and in sherds, was found, the provenience of which is entirely certain. Here again, therefore, we have a fixed point in our ceramic chronology, with material in abundance, illustrating every type of pottery which was then used. Numerous scarabs were discovered in this level, helping materially in establishing the chronology; see below, §45. Our finest material was naturally found in the house of a patrician, which we excavated in SE 22D. Here we found a store-room full of store-jars (pithoi), six of which are drawn in outline (plate 41: 10, 12-16), after having been laboriously reconstructed from innumerable fragments by the patient industry of Dr. Aage Schmidt. These store-jars range from seventy cm. to a metre in height, and their forms are remarkably varied. Three are handleless and without rope bands; two have handles,

one has four of them, while the other is provided also with a raised rope-band; two have rope-bands. The handleless ones are also varied; one is severely plain, while the others are all incised with horizontal lines, with vertical lines, or, as in no. 15, with a horizontal line and a wavy vertical line. Others of the pithoi, which could not be reconstructed, had combed surface, with the plain, continuous combing which is characteristic of MB II (cf. 11: 18-21). The proportion of rope-bands with herring-bone design was also high among the unreconstructed store-jars. It will be noted that the handles are both on the side (no. 12, with four handles), in the position familiar from following ages, and on the shoulder (no. 13), in a characteristic MB position. Bases are both small and flat, as in nos. 13, 15-6, or are pointed, as in the other three. Both types of bases are found in nearly the same proportions among the fragments from other sections of the D stratum, but the small flat bottom of the former group is peculiar to strata E-D. Rims are all thickened and rounded; the elaborately profiled rim which becomes very characteristic of E-D, as well as of C<sub>1</sub>, is only represented here on no. 10. Sherds of the latter are illustrated in plates 10: 1-2, 12: 7, 13: 19-23, 45: 4, 8, 46: 3, 9-11, 13; all belonging unquestionably to period D. The rope-band which becomes ubiquitous on store-jars and water-jars of stratum D is illustrated on plates 10: 7-8, 11-12, 11: 1-4, 6, 45: 13; it does not always adhere to the normal herring-bone motive, but sometimes offers parallel rows of diagonal or horizontal notches, while the design sometimes is more complex (as in 11: 4). A wavy incised band, like 11: 8, is also found occasionally. Side loop-handles of water-jars are shown in 13: 9-12; all have a smooth oval section, and exhibit the characteristic MB thickening at the lower end. The handle 13: 18 bears an elaborate incised hand-decoration.

29. Store-jars of the Middle Bronze are by no means common, since restoration of them is not easy, even when all of the fragments are found. Three store-jars of about our D period, coming from Tell el-Fâr'ah, are illustrated in CPP 43, A 2-4. All three are handleless, and resemble our 41: 10, 14-5. Like nos. 10 and 15 they range from 60 to 70 cm. in height. A 3 and 4 have small flat bottoms, like nos. 15 and 16, etc. A 2-3 appear to have rims like our nos. 13-5, though they are drawn more pointed. Finally A 4 has a profiled rim of typical D-C<sub>1</sub> type. These pithoi came from tombs 550, 559, 568, and are assigned by Petrie to his Dyn. XV group, which contains all the most typical Hyksos scarab and vase material; cf. the register, TF XIV-V, and the photograph of pottery from no. 550, pl. VIII. A similar pithos, about 80 cm. high, was found at Beth-shan in a

late fifteenth century stratum (BSF XLII: 9); it has a most elaborately profiled rim, much more complex than anything from stratum D, and a small flat bottom. The Beth-shan specimen corresponds chronologically to our C<sub>1</sub>, and represents the very end of the type in question. An amphora of this general period about 60 cm. in height is illustrated G III, XXXVII, 1 (cf. also APEF II, plate XVII, no. 13), but it belongs to a different type. Cf. also the store-jar from Beth-shelesh, found by Grant (BSG 131: 696), 83 cm. high.

30. Only one water-jar could be reconstructed: plate 8, no. 1, which stands about 55 cm. high (original height), and has one handle on the shoulder. This type is exclusively MB; for nearly identical forms of water-jars, though all somewhat smaller, cf. the outlines from Tell el-Fâr'ah, given CPP 38, B 1-4, all of which were found in tombs assigned by Petrie to his XV-XVI Dynasty sequences; cf. also BSG 131 (three specimens), 153: 320, 155: 78, all smaller than ours, and all from MB II.

31. Only one smaller jug was found intact: 9: 4 = 42: 10, about 16.5 cm. high, with a disc-base, undecorated. The closest parallel which I have seen is a vase from the XV-XVI Dyn. group of Tell el-Fâr'ah, CPP 34, F 3, which is about 21 cm. high, but has the same general form, the same profiled pinched lip, long loop-handle, and disc-base. Tomb 706, where it was found, contained otherwise only Hyksos types: carinated bowls, flat bottomed Tell el-Yahûdiyeh juglet, water-jug with shoulder-handle, etc. Another small jug was only found in fragments, one of which is illustrated in 10: 5. The double shoulder-handle is like the Tell el-Fâr'ah vase CPP 38: O 4, which, aside from this feature, is almost identical with a vase from the same tomb no. 706. For double shoulder-handles see also BSG 151: 330, 339.

32. The long-pointed, one-handled jug is so well-known that no comparative remarks are necessary to establish its date and range. For the earliest appearance of this type see above, § 21. It died out very rapidly in the LB I, and was replaced, probably before the beginning of LB II, by a type superficially much the same in appearance, but showing marks of vertical paring with a knife all around the body. At Beth-shan our type has disappeared by the Tuthmosis III period, i. e., by the first half of the fifteenth century, so we may safely place its extinction all over Palestine between 1550 and 1450 B. C., perhaps before 1500. Outlines may be found on plates 42-3. Plate 42: 9 is light buff, unburnished; no. 11 is buff, unburnished; no. 12 is reddish buff, with smoothed, but not burnished surface; no. 13 is creamy buff, with vertical strokes of burnishing; no. 14 is the same. Photographs of nos. 9, 12-3 will be found in 9: 10, 8, 9, respectively. Plate 43, no. 5 has a



brownish-red slip, continuously burnished in the even polish so characteristic of the best MB work; no. 7 has buff surface, unburnished. Sherds of vessels of this type are reproduced on plate 11, nos. 39, 42; 10, no. 9; 12, no. 10 (buff clay with a rich red slip, burnished in vertical strokes converging toward base).

33. In stratum D carinated bowls become exceedingly abundant, but the forms of vessels are generally not so delicate as we found them in G, and the groove inside the rim is lacking. Here again, the material is so extensive and so familiar that there is no need for an elaborate comparative survey. Cf. the numerous carinated bowls marked XV and XVI from Tell el-Fâr'ab in CPP; the specimens from Beth-shemesh (high-place grotto) illustrated APEF II, pl. XVII, 4, 8; from the same (MB II tombs) shown BSG 119-149, *passim* (the largest group published); the vases from a MB tomb near Jaffa (BPM, No. 2, pl. I, right hand side), the vases from the "red" city of Jericho (J. pl. 22, 29, 30), all of which belong to our period. Our carinated bowls are not so graceful or beautifully finished as those from G described in § 20, nor as those from cave 28 II in Gezer (G III, XXXVII-IX), which is somewhat later than G, but earlier than the latter part of D (cf. § 26). Plate 42: 4 is light buff, nearly cream, without slip, and stands decidedly skew, as do many of these wheel-made bowls. 42: 5 is reddish buff, without slip, and with fine white grits in the clay; it is also skew. The next one, no. 6, is buff, otherwise like the preceding, except that the concave disc-base has become a flat one. No. 7 is reconstructed from sherds, and the height is only approximate; the surface is buff, and is elaborately burnished in pattern-burnishing. No. 8 is reddish buff, without slip, and stands level. For photographs of nos. 4-5, 8 see plate 9, nos. 6, 7, 5, respectively. Plate 12, nos. 2, 6, 8, 11, are parts of carinated bowls of the same period, all with buff surface, and no trace of slip or burnishing. Plate 10, no. 6, belongs to a curvilinear bowl of this type, and has a cream slip. Nos. 13, 16-7, and 20 are concave disc-bases of small bowls of our class; no. 13 has a rich red slip, line-burnished; no. 16 has a cream slip, while the two others are plain, with buff surface. In plate 11, nos. 22-4, 26, 29, and 31 belong to our class, while no. 43 is part of a larger carinated bowl, with plain buff surface. 13: 15-7 represent the side and rim of similar bowls, all plain. It will have been noted that the relative amount of slip and burnishing is very small indeed in stratum D when compared with stratum G, though the vessels themselves are more numerous.

34. Closely related to the class just described are carinated vessels on a high trumpet-foot, belonging to the general group of forms reflected by the classical crater, stamnos, and cylix. Three, all incomplete, are outlined on

plate 43. The finest is no. 6, belonging to a type best illustrated by the unpublished MB vases from Balāṭah (Sellin's pre-War excavations), now in the Berlin Museum. It was found in SE 22 D-8, a room of the patrician house mentioned above. It is covered with a rich white slip, burnished, and was so highly prized that it was mended after a break. No. 4a, which has lost the foot, is covered with a continuously ring-burnished red slip. It is almost identical in form with J, pl. 42, A 1, with which it also shares the burnished red slip and the raised ring about the neck (for which features see BPM, No. 3, pl. V, no. 2). Other specimens are described by Watzinger, J 122; the plastic ring is exceedingly characteristic, and does not appear in LB forms, which otherwise seem to a superficial observer rather similar. No. 8 belongs to a much larger vessel; the surface is badly worn. For part of a small vessel of this class see 10: 19, a very small and graceful vessel, with finely levigated dark gray clay, covered with burnished light red slip. 11: 31 is a shallow trumpet-foot.

35. Characteristic of D are numerous large shallow bowls, generally with concave disc-base, and virtually always with inverted rim. These bowls are usually somewhat skew. The inverted rim is generally curved gently, like the bowl rim of LB, and not sharply, as in EB and some MB I. Ribbed rims are unknown. The base is always carefully smoothed, to erase the wheel-marks. Most remarkable, however, is the frequent ring-burnishing, which occurs in the Bronze Age only in MB II, and does not recur until EI II. Ring, or spiral burnishing is produced by applying the burnishing tool (stone or bone) first to the outside of the rim, and then moving it slowly and steadily toward the middle of the interior, while rapidly turning the vessel. Another form of burnishing which is common in these bowls consists in centripetal strokes, from the rim (which is sometimes ring-burnished) to the center of the interior. Plate 44: 6-7 illustrate the spiral burnishing, which is generally more regular, as well as finer in line than in EI II, while no. 8 has the second kind of burnishing, which is difficult to illustrate intelligibly in a drawing. None of the four bowls 44: 6-9 has a slip—another contrast with stratum A, when ring-burnished bowls were nearly always smeared with a red slip before burnishing. For sherds of shallow bowls with inverted rims see plates 10: 3, 11: 25, 30 (ring-base). Plate 12: 1 has a ring-base, buff surface, burnished centripetally (with lines converging toward center; see above). 12: 4 has two handles, and is elaborately burnished, both on the inside and on the outside, with horizontal ring-burnishing on the rim, and centripetal lines below. The almost universal aversion to painted ornament in MB II is evaded in three sherds from stratum D, all curiously enough

belonging to our class of shallow bowls with inverted rims. 11: 14 is part of the interior of such a bowl, with centripetally burnished buff surface, but with a wide cruciform band of lustrous reddish brown paint, burnished in the same seuse. An almost identical bowl, exhibiting precisely the same technique, was found by Mackenzie in the High Place Grotto at Beth-shemesh, to which we have already had occasion to refer; for drawing and adequate description see BPM, No. 3, pl. V: 7. For additional bowls of this type from Beth-shemesh see BSG 149: 181, 136 and 145: 3; cf. also G III, pl. LXI, nos. 16, 16a, from MB II. Plates 10: 24 and 13: 28 show slightly more elaborate painted ornament. The latter is a fragment of the rim of a shallow bowl with inverted rim, with creamy buff surface, lightly burnished without a slip, and with decoration in matt brownish red paint. Inside the rim runs a wide band of color, while at right angles to it, converging on the center, are bands composed of two straight lines with a wavy line between them. The former is a bit of the interior of such a bowl, with grayish buff surface, continuously burnished without slip, with the same type of painted ornament, here consisting apparently of three straight lines alternating with two wavy lines, all in light red. The outside surface is brick red (the natural color), irregularly hand-burnished.

36. One of the most characteristic vessels of stratum D is the flat bottomed cooking pot, with a raised band below the rim, ornamented with finger impressions (plates 44: 10-13; 43: 9; 8: 5; 10: 18, 23; 11: 12-3, 15-7). The finger-print band on the D cooking pots differs from that on cooking pots of I-F mainly by the absence of the boles and the movement of the band to the very edge of the rim, instead of having an free space left between it and the latter. This cooking pot rim is also found all over southern and central Palestine at this period. The red city level at Jericho exhibits sherds of this type, which I have picked up at that site. For Shiloh in MB II see Kjaer, *I det Hellige Land* (Copenhagen, 1931), p. 42, fig. 30 above. For Gezer cf. G III, CXLVIII: 24 (erroneously ascribed to First Semitic). Tell el-Fâr'ah exhibits this type in the periods equated by Petrie with the XV-XVI Dynasties (cf. CPP, Decorated Fragments, 4, A 15, etc., with Petrie's notations. Like the cooking pots of I-F, described above, § 15, the clay is exceedingly gritty, which was, of course, a deliberate provision of the potter, to prevent it from cracking under heat. This "porridge" ware offers a strange contrast to some of the finely levigated clay vessels of the carinate type.

37. Other types of incised decoration are also found. The large bowl illustrated in 12: 12 and 41: 11 has a grooved rim, while the body is decorated with two bands, each composed of thumb-nail impressions; the surface is plain buff. 13: 28 illustrates part of the rim of a much smaller bowl; the

rim is grooved in herring-bone style, and a serpent is molded just below the rim, in high relief, like the serpent from I-H, 4: 28 (see § 17). Cf., in addition to the references given above, the vases found by Grant at Beth-shemesh (BSG 143: 2, 145: 2), which also date from MB II.

38. The lamps of stratum D are generally of the well-known MB type, where one side of the saucer is very slightly pinched, with little or no folding over; cf 8: 4; 10: 26; 43: 3-4. Plate 8: 2 exhibits another type, which is rare, identical with the characteristic LB lamp form. It may be added that the D provenience of this lamp is quite certain. At Beth-shemesh the MB II cemetery provided a similar group, with the first type dominant, while the LB type also appeared; see BSG 123: 1, 129 above, 157 below.

39. Among the imported pottery of period D, two types are particularly interesting, piriform juglets of the black incised class (Tell el-Yahūdiyeh ware) and Cypro-Phoenician base-ring ware (*bilbil*). No complete piriform juglets were found in stratum D, and the variety of forms and colors is reduced almost entirely to the standard black incised type, with double-handle and button-base; cf. 10: 21 (burnished dark red slip), 25 (black double-handle); 13: 24-6 (all black), 1-2, 4 (black). The sherds in question may in part belong to earlier phases of period D; examination of house-levels showed clearly that the piriform juglet was passing out of use, if we may judge from its rarity, at the end of period D. The Tell el-Yahūdiyeh ware appears at our site in stratum G (see § 23, end); my statement JPOS 1931, 110, that it first appears in I-H, is erroneous (due to confusion with the double-handle which first comes then). For an elaborate discussion of the Tell el-Yahūdiyeh category see Junker, *Der nubische Ursprung der sogenannten Tell el-Jahūdiye-Vasen*, Vienna, 1921, corrected by Bonnet, *Zeitschrift für Ägyptische Sprache*, 59, 119 ff., Scharff, *Das vorgesch. Gräberfeld von Abusir el-Meleq*, p. 99 f., and Dussaud, *Syria*, 1928, 147 ff., who have proved its Syrian origin (which would be even more evident if they had been able to compare the material from Grant's excavations at Beth-shemesh, Sukenik's work at Tell ed-Djeriṣeh, etc.). As is well-known, the black piriform juglet is typical of the Hyksos period.

39A. Cypro-Phoenician base-ring ware is still very rarely found in stratum D, and had evidently just begun to be imported into southern Palestine. Only two certain pieces were found in stratum D, 13: 3 and the sherd 13: 5. On the other hand, no examples of the imported white slip ware (wishbone-banded bowls, etc.) were discovered in stratum D. We find precisely the same situation at Beth-shemesh, in tomb no. 2 (BSG), in which the base-ring vases nos. 185-8 are found with otherwise exclusively MB II pottery. One of these vases (no. 188) is a small *bilbil*, with skew stance, precisely like 13: 3.

The best discussion of the base-ring ware is by Gjerstad, SPC 310 ff.; the author is wrong, however, in identifying base-ring ware in Watzinger's *Jericho* (p. 313, n. 4), though the lack of such ware in this publication is probably quite accidental. Our clearest evidence comes from Egypt (only in part available to and understood by Gjerstad, who is hardly to blame, since he is not an Egyptologist). At Mayānah, near Sedment, at the entrance to the Faiyūm from the Nile Valley, Brunton discovered in 1921 a group of tombs belonging to the close of the Second Intermediate Age, i. e., about the end of the seventeenth and the early sixteenth century B. C., as is shown by the large collection of scarabs found (*Sedment I*, pp. 16-20, plates XLIII-XLV). The pottery occupies a similar intermediate position, closer to that of the Eighteenth Dynasty than to that of the Middle Empire. A number of imported Syrian vases were found, listed as nos. 64-5, 67-71 on plate XLV; no. 65 is a typical *būbūl*. At Abūsir el-Meleq in Middle Egypt a group of Hyksos tombs was found, published by Scharff, *op. cit.*, which contained (p. 90, pl. 70, nos. 481-2 — 76, nos. 4-5) exact analogies to Mayānah, no. 69. The Hyksos date is certain. The other vases of Mayānah are important for the chronology, since all of them belong to MB II in Palestine and Cyprus. The upward spring of the handle as it leaves the neck of the vase is typical of this period, and is particularly common on Tell el-Yahūdiyeh vases; for other illustrations cf. the four vases from Tell el-Fār'ah, listed by Petrie as CPP 68, A 2-5, and assigned by him to the Sixteenth Dynasty (i. e., to the same period as the foreign pottery from Mayānah, the vase from Gezer (G III, CLIII: 6), referred to the Second Semitic by Macalister. No. 64 from Mayānah resembles the black lustrous vase from Cyprus figured by Gjerstad in SPC 203, no. 5, and considered by him as a MB import into Cyprus from Syria. SPC 205, no. 2 is in shape, springing handle, and decoration almost a duplicate of Mayānah, no. 70 (cf. also G III, LXII, no. 51, from MB II). No. 69 resembles in shape and decoration, though not so closely, the vase figured by Gjerstad as no. 2 on p. 169 of his book, and referred by him to Middle Cypriote II-III (his absolute dates for which, 1900-1600, are somewhat too high, in any case). The same absolute date, toward the close of the Second Intermediate, is characteristic of the same ware where found elsewhere in Egypt, as at Gizeh and Rifeh (Petrie, *Gizeh and Rifeh*, plate VIII, 51; VIII A, 67; VIII B, 99, 101), at Tarkhan (Petrie, *Tarkhan II*, 11 and plate IX, 21-3). It may be observed that Petrie is wrong in assigning the vase *Tarkhan II*, pl. VIII, 25 to the Eighteenth Dynasty, since it is practically identical with *Sedment*, pl. XLV, no. 70. Brunton and Engelbach, *Gurob* (1927), pl. XXXIII, tomb 26, have figured the contents of a burial belonging to the time of Amenophis I (cir. 1555-35), dated by the scarab no. 31, bearing

a cartouche with the prenomen of this monarch. The other scarabs are partly of the Hyksos type, and partly of the early Dyu. XVIII type, while the native pottery belongs to Dyn. XVIII (a very instructive fact, since it forces us to date the Mayānah pottery well before the middle of the sixteenth century B. C.). There is one pseudo-Yahūdiyeh vase (no. 36) and two vases like the foreign vases from Mayānah and Tarkhan which we have been describing (nos. 37-8). We find the same situation in the tombs from the sixteenth century described by Brunton, *Gurob*, pl. XXII, nos. 25-7; pl. XXIII, nos 36-8. This is the last appearance of this MB ware, which, therefore, passed out of use about the middle of the sixteenth century, and before 1500 B. C. at the latest. The vase figured as Mayānah, no. 71, a pitcher with an elaborate painted decoration, consisting mainly of a metopic frieze with birds in the metopes, bears an equally close relation to Syro-Palestinian pottery of MB II. The bird in the metope is paralleled most closely by the painted howls from Tell el-Hesī (THB 62, fig. 106) and Gezer (G II, 163, fig. 324), and by the Cyprian jugs SPC 205, no. 6, and British Museum, no. C 782. The Tell el-Hesī sherd, together with several others, belongs to stratum II, which is unquestionably MB II (the following stratum extended down to the Amarna period). These sherds, which I examined several years ago in the PEF offices in London, are polychrome (red and black) on a light buff slip. One of them has an eight-spoked wheel in red inside a curvilinear ornament in black, like the British Museum vase just referred to, which also represents a bird in almost identical technique (in black with red interior, while tail, feet, and head with bill bear equally close resemblance). The latter vase is erroneously called "sub-Mycenaean" on the label, but evidently belongs to the period of Tell el-Hesī II, as is further proved by the find of a vase bearing the same ornament of an eight-spoked wheel at el-Miṣrifeh (*Syria*, 1930, pl. XXXI, 7, no. 61. Du Mesnil's date about 1600 B. C. is quite correct. The Gezer howl, above referred to, has a frieze with birds of the same type and fishes in alternate metopes; Macalister dates it in his Second Semitic. Finally, the Cyprian jug found by Gjerstad is assigned by him to Middle Cypriote II-III, like the other vases of this imported MB group. We have, therefore, complete congruence in our chronology, and can return to the Mayānah *bilbil* which formed the text of this excursus with confidence that it really does date from before 1550. The material from Tell Beit Mirsim, Beth-shemesh, and Mayānah proves conclusively that base-ring ware was actually imported into Palestine and Egypt before the end of the MB period, i.e. before about the middle of the sixteenth century (see below, § 63).

40. We may now turn to the alabaster, a very instructive group of which

was discovered in stratum D; see pl. 9: 1-3, 42: 1-3, 43: 1-2. All these alabastra were undoubtedly imported from Egypt, where analogies are abundant. Let us first turn to the illustrative material from Palestine itself, also consisting of Egyptian importations. In Gezer the only really similar forms were found in cave 28 II, where we find three vases (G III, pl. XLII: 3, 5, 8, which belong to the same class as our 42: 3 (= 9: 3) and 43: 2. Our vases are elliptical in outside horizontal section, but round, of course, in the corresponding inside section, which gives them a very different appearance when

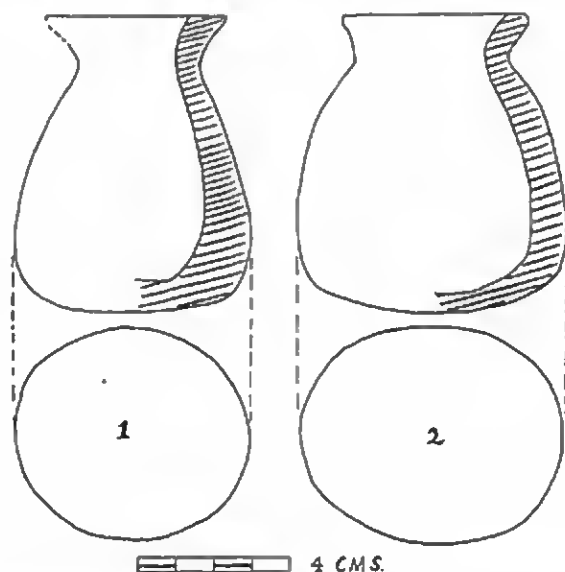


Fig. 3

seen from different angles. We are not told about the section of the Gezer examples. Externally similar is G III, pl. CCXIII: 10, which was, however, found in the Fourth Semitic stratum, according to Macalister. Very much better is the alabastron figured G II, 340, no. 3, which is assigned by Macalister to First Semitic—too early a date, since, as we shall see, this form came into Egypt after the Twelfth Dynasty. The profiled alabastron, 42: 2, may have been the bowl of a vase with trumpet-foot, like the specimen from Beth-shemesh (LB?), BSG 137, to right, or without such a foot, like the one to the left (cf. the twelfth century example from Tell el-Fārāh, TF XVI, above, erroneously ascribed by Petrie to "late Eighteenth Dynasty," but certainly belonging to the transition from LB II to EI I), which may be

called a pyxis. The other material from Palestine throws no light on the chronology, and so may be passed over, in order that we may turn to the Egyptian parallels. The form of the alabastra first discussed above resembles that of the Hyksos example (of diorite) illustrated by Scharff, *op. cit.*, pl. 71, no. 496, and erroneously compared by him with a vase from Meidûm (p. 92), which is really quite different in shape and belongs to the late fifteenth century, as shown by a scarab of Amenophis II in the same tomb. Scharff's vase is, however, only 2.7 cm. high, while our alabastra are 5.5 and 7.8, respectively. Perfect analogies come again from Mayânah, where, in the late Hyksos ("Sixteenth Dynasty") cemetery were found several alabastra (*Sedment I*, pl. XLI: 1-4, 29, 33) belonging to our first type. One of them (no. 33) is expressly drawn as oval in horizontal section (fig. 3, no. 2). Nos. 2 and 4, especially the former, are closely related to our 42: 1, the rim of which is, however, beveled on the upper edge, a feature which is not apparent in the drawings of the Mayânah specimens. The latter vary in height from about 5.5 cm. to about 13, while the best one for our purpose, no. 33, is about 7.8 cm. in height, i. e., exactly the same as the second of ours. In Brunton, *Qau and Badari III*, pl. XX, no. 9, is an alabastron from the Second Intermediate period which resembles 42: 1 closely, aside from the beveled edge, which is not indicated. The closest parallel to our 42: 2 which I have found comes from the Eighteenth Dynasty, according to Petrie (*Lahun II*, pl. LXVI, no. 13 and 13 A. The closest parallel to 43: 1 is found in the two alabastra from the sixteenth century figured by Brunton, *Gurob*, pl. XXII, nos. 46-7; no. 46 has the same oval horizontal section as ours. Pl. 9: 1 is part of a lentoid flask, which I have not succeeded in paralleling.

41. The faience ointment pot. 44: 15, is just as characteristic of MB II as the alabastra. The best specimens come from Gezer, Tell el-Fârah, and from Badari in Egypt. I have seen one which is almost identical with ours in form and design at an antiquity dealer's in Jerusalem. The Gezer examples are all from the Second Semitic, so far as Macalister makes precise statements regarding their provenience. The example G I, 303, fig. 160, no. 9, belongs to MB II, as is shown by a number of Hyksos scarabs; its design is the same as that of ours below and above, but differs in the wide middle register. G III, pl. CCXI, 13, 28, belong with ours, but the others grouped with them by Macalister (G II, 337) are quite different, and belong, as he states, to a later period. The decoration on nos. 13 and 28 is nearly the same as that of ours in the upper and lower registers, but differs again in the important middle band. No. 13 has a frieze of lotus plants. The color of the first Gezer specimens is approximately the same as that of ours, i. e., bluish green with brown



lines. Two more were found by Petrie in tombs of his "Fifteenth Dynasty" period at Tell el-Fâr'ah (TF, pl. VI, nos. 15, 18); the second (fig. 4, b) has the same decoration in the upper and lower registers as ours and the first pot of Gezer, but differs, as usual, in the wide middle register. The second Tell el-Fâr'ah pot is intermediate in decoration between the first and ours. At Badari Brunton found two of these drop-shaped ointment pots in his Second Intermediate cemetery *Qau and Badari III*, 1930), illustrated on plates XX,

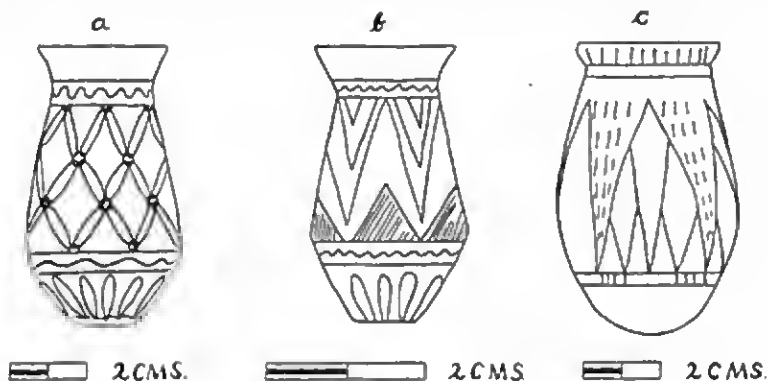


Fig. 4

no. 11, and XXI, 7196. The first (fig. 4, c) has the same type of decoration in the middle registers as the specimens from Tell el-Fâr'ah, and above resembles Gezer, no. 13. It is very interesting to note that the two from Badari, the one from Tell Beit Mirsim, and two of the three from Gezer have all the same height, about 7.5 cm. If Petrie's scale is correct, which one may doubt, the two from Tell el-Fâr'ah are exactly half as high. TF, pl. IX, no. 39, is shown a vase of the same general type, but with a considerably smaller neck, assigned by Petrie to his "Sixteenth Dynasty" group, which is somewhat later than the group already considered, but still belongs to the Hyksos age and to MB II.

42. To the Bronze Age, and perhaps to stratum D, belongs the pottery incense-stand represented on pl. 44, no. 14. The painted decoration consists in alternate red and dark blue bands on a white slip, over a reddish buff clay. Fragments of other similar incense-stands were found in the MB stratum, and are now known from various parts of Palestine in MB and LB. The first appearance of these incense-stands, with the same tapering cylindrical form, and with incised decoration, we find in stratum G of Assur, shortly before the middle of the third millennium (Andrae, *Die archaischen Ishtar-Tempel*, pl. 18, 20 a-h). In the Late Bronze they are extremely common, especially at

Beth-shan (cf. the illustration given by Gressmann, *Allorientalische Bilder zum Alten Testament*, no. 673, and the observations by Albright and Rowe, *Journal of Egyptian Archaeology*, 1928, 285), where they abound in all the temples excavated, from the fifteenth to the twelfth century. The incense-stands found in the central hill at Qatna (el-Miṣrifeh), and illustrated by du Mesnil in *Syria*, 1927, pl. LXXXIV, below, seem to belong to the Late Bronze, to judge from the fragments shown with them. However this may be, there is an unmistakable family relationship between them and the stand G II, 337, fig. 460, which Macalister erroneously regards as Egyptian. His date in the Fourth Semitic seems rather late, but may be correct. For another stand of the same general class, probably LB, see plate 50, no. 2. The entire subject is discussed in detail by Watzinger, M II, 38 ff., to which we may refer; we have simply added a number of additional references and comparisons, without attempting to solve the problem of the purpose of these enigmatic objects. At present the three theories, that they were used as stands for incense-burners, as holders for sacred plants, and as libation pipes, have nearly equal monumental evidence. It may well be that all three functions were known in the ancient Orient, and that their precise use varied from country to country, and from period to period.

43. The broken pottery animal-vase, plate 8: 3, represents a four-footed beast, with a very thick body and short legs, as well as a stumpy tail. The surface is covered with a white slip, on which are remains of red line painting, possibly indicating harness (in which case the animal may be a horse, the vertical spout representing his rider?). Since the head is missing, an identification is palpably futile, in the absence of directly analogous material. The date in period D is certain.

44. Before leaving the subject of pottery from stratum D we may examine the pottery illustrated on plate 13, nos. 29-56, consisting of sherds from the lowest meter of a deep cut in SE 33, just outside the G wall, and below the foundations of the D revetment. It was not possible to identify these sherds until we had surveyed all the MB pottery, which accounts for our postponement of its discussion until now. Nos. 29-31 are cooking pots with the I-F characteristics described above (§ 15). Nos. 32, 34-5 belong to MB II, but the stratum is doubtful. No. 33 is like our D cooking pots (§ 36), and may come from stratum E. Nos. 36-7 may belong to any phase of MB. No. 38 is a pattern-combed sherd of the finer type, like 5: 9 (§ 19), found in stratum H, but suspected of intrusion from stratum J. Nos. 39-40 are exactly like our wheel-combed pottery from stratum D, and may perhaps belong to early E, like no. 33. Nos. 41-4 are rims and walls of graceful carinated bowls of the

best pre-D type, all highly burnished, such as we find from G to E (above, §§ 20, 33). No. 48 is part of the wall of a bowl of this type, with a band composed of a network of pattern-burnishing. Nos. 47, 52-6 are sherds of carinated bowls, all burnished. Nos 45-6 are rims of bowls with inverted rims; the former has elaborate pattern-burnishing, like vessels of MB I, in which this technique perhaps attained its climax. No. 49 comes from a vessel with sharply carinated body, and with two bands of red on a white slip. No. 50 comes from a wall of an elongated, one-handled jug, and was originally

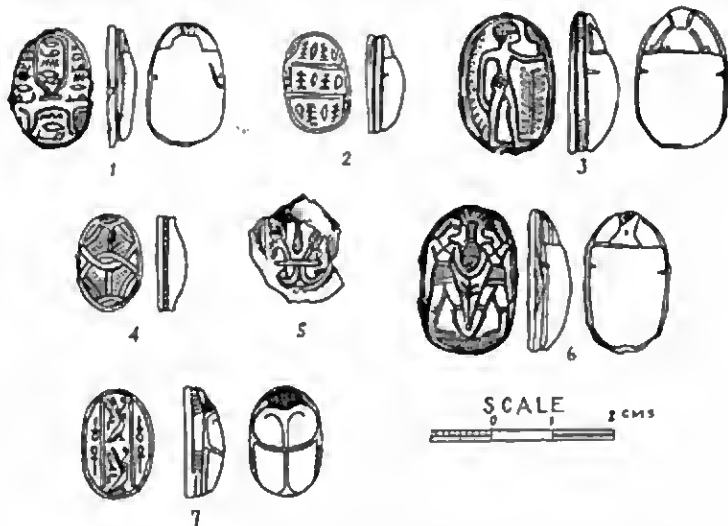


Fig. 5

covered with a rich red slip, highly burnished. No. 61 is the burnished double handle of a piriform jug of Tell el-Yahūdiyyeh type, also from a pre-D stage of MB II. It is unfortunate that we do not possess a well-preserved section of the E stratum, since there is reason to believe that MB II pottery was then at its height of perfection, during the climax of the Hyksos imperial age.

45. We have now assembled all the ceramic materials for dating stratum D. First let us examine the scarabs found in this level (fig. 5), which are all certain so far as provenience is concerned except no. 7, which was found by a visitor to the site in débris which had come from stratum D. No. 5 is an impression on a jar-sealing of clay, with the impressions of the cord clearly visible. The finest, no. 8 (fig. 6), was discovered in a room of our patrician house in SE 22. Let us take each scarab separately, to avoid confusion, since the mass of detail will be considerable. No. 1 (fig. 5) is an imitation of Twelfth Dynasty scarabs of Sesostris II or III (cf. Hall, *Royal Scarabs*, 1913, nos.

113, 123), but the hieroglyphs are all meaningless repetitions of three misunderstood characters (which Weill read as *Anra!*), as is so common in the Hyksos period; cf. the references given for no. 2. The closest single parallel is from Tell el-Fâr'ah (TF, pl. XII, no. 146), with the same general composition, made up of meaningless characters. This is assigned by Petrie to his second, or "Sixteenth Dynasty," group of Hyksos scarabs. There is nothing remarkable about the back of the scarab. From Gezer comes another parallel, III, CCVI: 50. No. 2 has a great many parallels. For the three horizontal registers and the meaningless characters in the middle (repeated in all three registers on our scarab) cf. TF X: 83 (Sixteenth Dyn.), G III, CCVI: 9, which correspond to Mayânah, no. 25 (*Sedment I*, XLIII). The columns of meaningless characters, consisting of repetitions of two or three elements, are more often arranged vertically, as in our no. 1; simple vertical columns of such characters, with no other decorations, as in our no. 2, occur TF, X, nos. 74, 109 (both referred to the Sixteenth Dynasty), G III, CCIII a, no. 19, CCVI, no. 3, as well as at Tell el-Yahûdiyeh, in Hyksos graves (Petrie, *Hyksos and Israelite Cities*, pl. VI: 4, IX: 166), and at Mayânah (*Sedment I*, XLIII: 12, 15). For unpublished examples of the horizontal arrangement cf. British Museum, nos. 28, 150 and 38, 780. No. 3, which is of diorite, represents a man with loin-cloth, brandishing the Egyptian *hâpeš* sword. More or less close parallels, though none so well executed, may be found in Gezer (G III, CCVI: 44), as well as at Tell el-Yahûdiyeh (Petrie, *op. cit.*, pl. VIII: 45) and in the Hyksos collection of the British Museum (nos. 39,383 and 48,830). No. 4 is a late example of the elaborate scroll designs which were at their best in the Thirteenth Dynasty, as we know, e. g., from Reisner's work at Kerma. Since there is obviously no advantage in listing all the somewhat parallel variations of the interlaced scroll theme, I shall give only a few identical cases, such as the Hyksos scarab in the British Museum, no. 39,716, TF, XXII: 215, XII: 122 (Sixteenth Dyn.), which is not quite identical, however, as well as such closely related examples as one from Badari (*Qau and Badari III*, XIX: 30), from the Second Intermediate, and another from Gezer, which has a similar hatching (G III, CCIX: 9). For no. 5 there are partial parallels, the best of which may be one from Gerar (Petrie, *Gerar*, pl. XVII: 14), without date. For no. 6, also of diorite, I have not been able to find any complete parallel; the closest comes from Badari (*op. cit.*, XIX: 67). The best parallel to our no. 7 came from the Hyksos level (city II) at Tell el-Hesi (THB 79, no. 115, 130). The elements of composition in the case of no. 7 are all very common, however. The opposed *'anḥ* signs in the outside vertical columns are particularly common in scarabs of the Hyksos

ruler called *Pp'* or *Šš'* (Petrie, *Scarabs and Cylinders*, pl. XXI: 6, 8-12, etc.; Hall, *Royal Scarabs*, p. 29 f.), and are due probably to misunderstanding of *'anḥ nāfer*, "good life." The curls on the back of the scarab are especially interesting. I cannot duplicate them in Hall or Petrie, but it is important to note that similar ornaments are found only in the period between the late Twelfth and the beginning of the Eighteenth Dynasty. The closest parallel (also with three vertical columns on the face) belongs to the Hyksos monarch 'Anata (Petrie, *op. cit.*, pl. XXI, 1, and Q. 20), who seems to be identical with 'Anat-har, as well as with the 'Anata of the Turin Papyrus. Petrie's Q 65, 68, 10, 62, 70, all belong to the period between Scsostris III and Amosis I. No. 8 (see above and fig. 6) is a particularly fine steatite

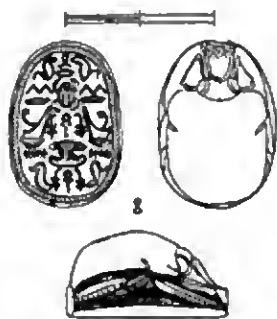


Fig. 6

scarab, with an elaborate meaningless hieroglyphic decoration and a rope-band around the edge. The back of the scarab has a notched clypeus. Aside from the fact that ours shows better workmanship, the back closely resembles J 17 in Petrie's classification (plate XV, BU), which belongs to a scarab of the chancellor Ḥūr (read *Ha-al* by Petrie; see JPOS XI, 114, n. 1 for my explanation) who undoubtedly lived during the First Intermediate age. To the same official belong the scarabs shown by Petrie on plate XVII, BT, CA, which have the closely related scarabacus form J 29. Petrie's D 20 has the same feathered legs as well as the same notched clypeus, and so belongs even nearer our scarab; the scarab of this type listed by Petrie belonged to a certain official of the Twelfth or Thirteenth Dynasty named Si-ḥanew. Several scarabs from Tell el-Fār'ah resemble ours more or less in face; pl. X: 59, 60 are assigned to the Fifteenth Dynasty group, while XII; 121 belongs to the Sixteenth. It is not our purpose here to discuss the purposes of the scarabs, nor their place of manufacture (which was probably Egypt in all our cases); we may refer to Pieper, "Die Bedeutung der Skarabäen für die palästinien-

sische Altertumskunde" (ZDPV 53, 183-99). Nor can we take up the problem of the chronological arrangement of the scarabs of the Second Intermediate period, where various proposals have been made by Weill, *La fin du Moyen Empire égyptien*, and Petrie, *Ancient Egypt*, 1929, 33 ff., among others. It is, however, clear from our survey that most of the scarabs from our stratum D belong to the latter part of the Second Intermediate period, i. e., to the seventeenth or early sixteenth century, according to the absolute chronology which we adopt, in common with practically all competent scholars.

46. It is evident that we have the fullest possible agreement between the results of our examination of the pottery and of the scarabs. The analogies which we have found between our pottery and our scarabs on the one hand and similar materials from other sites, both in Palestine and in Egypt, show that the two classes of objects belong together. In sites and strata where we have found resemblance in pottery we have also found similarity in scarabs, and *vice versa*, whenever sufficient data were available. The majority of the parallels, of whatever nature they are, point to the latter part of the Hyksos Age. All resemblance between scarabs and pottery found on Egyptian sites and that found in stratum D ceases after the period of Amenophis I, about the middle of the sixteenth century or a little later. Egyptian tomb-deposits from the age of Tuthmosis III, after about 1480 B. C., cease to offer close parallels. The same is true of the pottery of the Tuthmosis III level at Beth-shan, as we have already indicated above in a number of instances. Fitzgerald's publication of the Beth-shan pottery found during the 1925-6 campaigns agrees absolutely with the further results of Rowe's work during the 1927-8 campaigns, when he cleared an extensive area of the Tuthmosis III stratum. Thanks to Rowe's generosity in giving me access to his pottery and sending me copies of his photographs and unpublished plates, there can be no doubt that nearly all MB II types passed out of use before the time of Tuthmosis III at Beth-shan. Mr. Rowe also examined our D pottery himself, and arrived at precisely the same conclusion from his side.

47. It is naturally impossible to attain certainty regarding the date of the destruction of city D. In the light of the observations we have made, it is evident that we must place it at some time between the latter part of the Hyksos period and the end of the sixteenth century B. C. As a working hypothesis, the most reasonable view is that it was destroyed by Amosis (or Amenophis I) and his foreign mercenaries (see APB 90 f., JPOS 1931, 113-6). The date of the Egyptian conquest of southern Palestine cannot, unfortunately, be determined with any precision. I believe, however, that the ordinary date for the Expulsion of the Hyksos, c. 1580 B. C., at the very

beginning of the reign of Amosis, is too high (cf. the observations of Bilabel, *Geschichte Vorderasiens und Aegyptens*, p. 14). It is only reasonable to suppose that the total lack of historical inscriptions of the king himself is at least partly due to the circumstance that he lived only a short time after the capture of Sharuhē. It is even more likely that the absence of any further reference in the autobiography of Amosis, son of Abina, to fighting in Palestine under Amosis is due to this reason. It is, therefore, likely that Sharuhē did not fall until after 1560 B. C., and that Tell Beit Mirsim could not have fallen until the decade 1560-50. This date suits the pottery and scarabs both remarkably well, and may be tentatively adopted.

## CHAPTER IV

### STRATA C<sub>1</sub>—C<sub>2</sub> (LATE BRONZE I—II)

48. There was an interval of uncertain length between the fall of city D and its reoccupation by the people of C<sub>1</sub>. This interval may be assumed with absolute confidence from the circumstances of the stratification (cf. JPOS 1931, 114 f.), but its duration remains, of course, obscure. Less than a generation cannot be assumed. Late in our third campaign, when we succeeded in distinguishing clearly between C<sub>1</sub> and C<sub>2</sub>, we were unable to get absolutely certain groups of pottery of sufficient extent and homogeneity from C<sub>1</sub> to warrant inclusion here. All floor-levels in our section had apparently been destroyed, and we were therefore, reduced to the unsatisfactory expedient of studying confused débris, generally too shallow for stratigraphic study of the pottery. However, from examination of numerous sherds, found between the burned levels representing the destruction of D and C<sub>1</sub>, respectively, I arrived at some definite conclusions with regard to the nature of the C<sub>1</sub> ceramic. Certain types of D survived, such as the store-jar with elaborately profiled rim discussed in § 28-9, also found, e.g., in the late fifteenth century stratum at Beth-shan (BSF pl. XLII: 9). This profiled pithos rim is important for our present purposes because it seems to disappear early in C<sub>2</sub>, and is, at all events, no longer found in the late C<sub>2</sub> of the thirteenth century to which most of our C pottery belongs. In C<sub>1</sub> the MB carinated bowls and elongated, one-handled jugs with pointed base vanish with great rapidity, and are completely gone by the middle of the fifteenth century, being replaced by other types, which we shall take up in due course. Flat-bottomed cooking pots also vanish, and are replaced by transitional forms between such D cooking-pots as are illustrated in 10: 4 and 12: 3 (the origin of which type has been discussed above, § 15, on pl. 3: 33-5) and the typical LB II-EI I cooking pot. Both base-ring and wishbone-handled ware occur in C<sub>1</sub>, but no trace of Mycenacan ware has been found so far.

49. With C<sub>2</sub>, which followed the destruction of C<sub>1</sub> without any appreciable interval, we find ourselves in pure LB, with all characteristic pottery forms. Since this age is now very well-known, and is fixed chronologically by innumerable finds in Egypt, as well as by the precise stratigraphic data of Beth-shan, we need not devote much time to comparative discussion, but will restrict ourselves mainly to description and occasional citation of parallels and discussions elsewhere. The beginning of the occupation of C<sub>2</sub> can hardly be



placed after the time of Amenophis III (cir. 1415-1380), to judge from the evidence of a broken ring, containing a fine steatite scarab of that monarch, which was discovered in 1930 just under the C<sub>2</sub> conflagration level (fig. 7, no. 1), and which has excellent Egyptian and Palestinian parallels (cf. JPOS, 1931, 115, and Hall, *Royal Scarabs*, nos. 1811-2). Most of our pottery has its closest analogies in the Beth-shan ceramic of the Amenophis III-Sethos I periods; most of the vases listed as Ramesside belong actually to the latter part of the period which began with Ramesses II, and so are EI I (twelfth-eleventh centuries); Beth-shan was finally destroyed about 1000 B. C.

50. The small bowls of pl. 43: 10-14, 47: 1-8 (for 7 see below) represent in a way (this statement must not be understood genetically, since our bowls may have a different origin) the decadence of the beautiful carination of

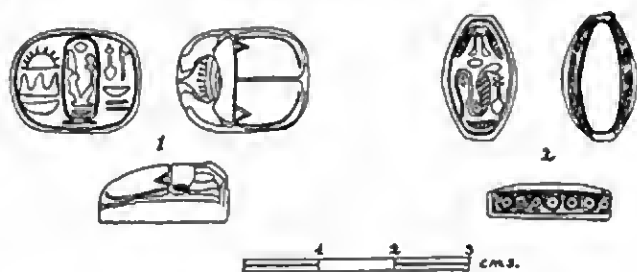


Fig. 7

MB II. These bowls represent one of the most common, but least characteristic shapes of C<sub>2</sub> (which we shall henceforth, in this chapter, term simply C, except where ambiguity might result). No. 10 has a disc-base and plain buff surface; no. 11 is buff, with a concave, hand-smoothed disc-base; no. 12 ditto. No. 13, with the same buff surface, has a ring-base, the inside of which is heveled—a very characteristic sign of period C. No. 14, red buff, has a disc-base, slightly concave, and partly hand-smoothed. On pl. 47, no. 1 is red buff, with very pronounced wheel-marks outside and on base. In B we shall find that the wheel-marks were very seldom smoothed off; in C this becomes increasingly true toward the end of the period, especially on small vessels. 47: 2-6, 8 are all of the same general color and type, so no further description is necessary. All belong certainly to stratum C. 47: 7 apparently came from a C context (in débris), but the form is so characteristic of the wavy carination which becomes common in B (see below, § 85, 92), that we may perhaps assign it to stratum B. In addition to these certain C bowls there are a number which were found in the East Cave, and which may, therefore, belong to B as well as to C. Pl. 45: 20, 22-4, are all reddish buff.

two with disc-base, one with concave disc-base, and one (no. 20), with ring-base and slightly carinated sides. On pl. 50 are two more from the East Cave, which probably belong to period C, nos. 1 and 3. Both have a plain buff surface, while no. 3 has a painted cross in red on the inside. We saw above (§ 35) that the interior painted cross goes back to the MB II, but the technique there described is entirely different from ours, which is characteristic of LB, and continues also into EI I.

51. Parallels to these LB bowls are numerous. For Beth-shan cf. the late fifteenth and early fourteenth century levels, BSF, pl. XLI, nos. 4, 8-12, etc.; the late fourteenth and early thirteenth century levels, pl. XLIV, 2, 5-7, 9-10, XLVI, 18. The bowls represented on the plates devoted to the Ramesses II level (pl. XLVII, ff.) are in part considerably later, since this stratum includes twelfth and eleventh century remains. For Gezer cf. the pure LB tomb-groups figured G III, LXIII, nos. 63-4, 69, 71, LXIV, no. 17, LXV, nos. 37-9, LXVI, nos. 41, 47, LXXI, nos. 26, 29, etc. The datings of this class of bowls in CPP 10 ff. are particularly inconsistent, and need not be dealt with.

52. Related to this class of bowls is the chalice, 50: 4, which was found in the East Cave, but is almost certainly, like the majority of pieces from this cave, of LB date. The closest parallel to our chalice is found in Macalister's pure LB tomb no. 30 (G III, pl. LXXIV: 1), which has a higher trumpet-foot, but is otherwise nearly the same in profile. It may be observed in this connection that 50: 2 is not the trumpet-foot of an unusually high chalice, but is a cult-stand (or possibly a brazier-stand) of the type discussed above in § 42; it comes from the East Cave, and probably belongs to period C.

53. The large, shallow bowls with inverted rims (cf. § 35) continue as a category through the entire C period, but the technique is so different in detail that it is seldom hard to distinguish a rim of period D from a C rim. Pl. 47: 12 is a large two-handled bowl of this type, differentiated sharply from similar bowls of stratum D by its ring-base alone, quite aside from other items. The surface is plain buff. This bowl comes from the same room, SE 22C-8, as the typical painted pitcher, 47: 10. For rims of bowls of different sizes, all belonging to this class, see pl. 19: 4, 7, 18 (all painted); 21: 12-8, 20-1, 36-8, 44. This type of bowl attains its greatest popularity in period C; in B the inverted rim disappears completely, as elsewhere in southern and central Palestine during the EI I, so the inverted rim forms a solid criterion for distinguishing Bronze from Iron Age pottery (fig. 8 gives typical LB inverted rim forms).

54. Pl. 47: 13 illustrates the first emergence of a type of large, deep bowl,

with two handles and a ring-base, which becomes very common in period B (see § 92 below). It would seem to be differentiated from Early Iron forms by its exceptional height and by the sharp inward jog just below the rim, which I found only in pieces (including sherds) belonging to period C. I have not found any published LB parallels; the closest approach is perhaps offered by many-handled bowls from Beth-sban, also with ring-base (BSF, pl. XLVI: 13-4).

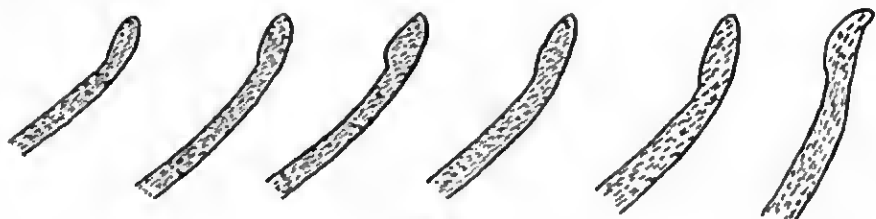


Fig. 8

55. Cooking pots with rounded base, and with collared or otherwise profiled rims make their appearance about the fifteenth century, well after the beginning of C<sub>1</sub>, and are already fully developed by the beginning of C<sub>2</sub>. Long and careful study has failed to yield any generally applicable formula for distinguishing the forms of LB from the forms of EI I, a result which is the more regrettable that the class in question lasts until the very end of EI I. In ware there appears to be no perceptible difference; the coarse, gritty paste remains the same (for its purpose see above, §§ 15, 36, on Bronze Age cooking pots) through both periods, i.e., from the fifteenth to the tenth centuries, inclusive. The complete cooking pot figured 47: 11, with no handles and a collared rim, is, however, a type which does not seem to occur in EI I. For an almost perfect parallel see BSF, pl. XLVI: 16, from about 1300 B. C. (late Sethos I level), also of the standard cooking pot size of about 30 cm. outside diameter. Since cooking pots seldom occur in tombs, and complete specimens are very rare, little attention has been paid to them, and few early examples have been published hitherto. I have found cooking pots with the same type of collared rim at Megiddo (complete, found in 1920 and now in the museum of the American School in Jerusalem), and at Tell 'Arā (ancient 'Arān, southwest of Megiddo), both times in an LB context. It must be added that this type of collared rim does not in itself prove LB date, since jugs with the same form of collared rim are found in Egypt, Syria, and Babylonian during the age of the Fifth-Sixth Dynasties and the Third Dynasty of Ur, as well as again in the Persian-Hellenistic period. It is the type of vessel to which it is attached that counts. Texture of clay, and curvature of the rim,

etc., are so different in the various periods, however, that no one acquainted with pottery can confuse them. Most cooking pots of LB date do not, unfortunately, possess this distinctive type of rim; numerous certain LB rims are illustrated on pl. 21, nos. 5-11, 39-42 (42 is a different type, perhaps from C<sub>1</sub>), 46-52 (52 comes from C<sub>1</sub> or even D, and does not belong properly to our class). As will be seen when we take up cooking pots of period B, there is no satisfactory differentiation on this side.

56. Elongated, pointed jugs (one handle) of a peculiar type make their appearance at an early stage of period C. The sides are pared, or shaved to a point, instead of being moulded. This type unquestionably arose in imitation of alabaster, and so we find that these vases are nearly always covered with a white or grayish-white slip. It is found all over Palestine, Syria, and Cyprus. For our site cf. pl. 21, nos. 58, 60 (both from level C, and both buff, without slip), and 44: 2 (from the East Cave). Pl. 44: 1 is of different type, with a smooth buff surface, and may belong to a considerably later period (EI II?).

57. The two-handled lentoid (pilgrim) flask, which attained its greatest popularity in period B, first appears in C<sub>2</sub>. Pl. 14: 1-2 are undoubtedly of period C, in clearly stratified sections of which both were found. No. 1, only one side of which was found, is covered with a creamy slip, on which are concentric red rings, grouped as three small ones around the center and four large ones halfway from the center to the edge. No. 2 (also in line-drawing on pl. 47: 14) has a buff surface, with alternate concentric rings of red and black, twice repeated. Unfortunately, the neck and handles are broken off: for a neck, with part of the handles, also certainly from stratum C<sub>2</sub>, see pl. 21: 53. This type of handle, springing upward arch-wise from its point of attachment to the neck of the vase, is quite common in period C, but seems to disappear in stratum B. It doubtless arose in MB II, along with the similar jug-handles described above, § 39, which disappear at the beginning of LB. It occurs commonly in the LB II of Gezer; see G III, LXV: 23, LXVI: 43, 46, LXX: 7, 9, 11 (the latter two with concentric rings of paint, resembling ours), LXXI: 2a, 10a (this tomb comes from the transition between LB II and EI I, about 1200 B. C.), etc. Beth-shemesh, tomb 1 (BSG 163 ff.). nos. 383, 540, on p. 191, are of this type, while nos. 384, 397 have the later type of handle, which joins the neck at right angle. Since this tomb, or rather cemetery, covers a period of at least a century, spanning the entire transition from LB II to EI I, phase 2 (our B<sub>2</sub>), this diversity of types was to be expected. At Beth-shan there is nothing exactly parallel in the published material; BSF, XLIII: 14-5 are globular, with ring-base, though the spring

of the handles and the concentric rings of paint are like ours, and the date in the late fifteenth century is most satisfactory. Petrie's published material from Tell el-Fâr'ah, so valuable for MB II and EI I, almost entirely fails us for LB, from which only one tomb, no. 902, containing scarabs of Tuthmosis III (2), Amenophis III (2), and Ramesses II (1), as well as three Mycenaean (late) and one Cypro-Phoenician (late) vase, has been published. Its date falls about the thirteenth century, covering three generations, according to Petrie's estimate (his fourteenth century date is, however, too high). Only one lentoid flask (L 2) was found, but it is not reproduced in CPP, so we can say nothing about it. In Gerar Petrie found one vase of our type, dated clearly to the LB II by its provenience and level, JO 170, which carries us into the period of wishbone-handled pottery (*Gerar*, pl. LX: 85d, compared with VI and LXIII); Petrie's provisional date in the Seventeenth Dynasty is naturally entirely wrong (CPP 85, D), like the rest of his early Gerar chronology. Pl. 44: 5, from the East Cave, is an Egyptian alabastron of late New Empire type.

58. Our material for C jugs is neither extensive nor satisfactory; cf. pl. 14: 8, 47: 10, 15, the latter two of which will be considered again in the discussion of painted decoration. One jug (no. 15) is sharply carinated in the middle, one is globular (no. 10), and the other is slightly piriform (no. 8). The latter is interesting because of its burnished decoration, which is rare in LB, and in this case reminds one strongly of MB styles. The burnishing, on a reddish buff surface, without slip, is discontinuous and boustrophedon; on the neck it is vertical, on the shoulder oblique, and on the lower part vertical again. The provenience of the pitcher no. 8 makes a C<sub>1</sub> date highly probable, and accounts for the resemblance to D burnishing technique, as well as to D form (profiled pinched lip, metallic appearance, concave flat base). In connection with the great scarcity of burnishing in LB note the exact parallels given by Pbythian-Adams for Ascalon (PEFQS 1923, 72; see *ANNUAL*, IV, 11 f.) and by Fitzgerald for Beth-sban (BSF 12). Pl. 45: 19, 21, from the East Cave, are probably also of LB date.

59. Lamps assume a form strictly intermediate between the pinched type of period D, which is then still rare (§ 38) and the lamps of period B. It is difficult to tell lamps of phase C from the other types without stratigraphical evidence, especially since the principal point of distinction between lamps of C and of B is that the former seldom have a wide flat lip, while the latter nearly always do. Our C lamps are illustrated in the photographs pl. 14: 3-7 and the line-drawings on pl. 48 (14: 3 = 48: 7, 14: 5 = 48: 8, 14: 6 = 48: 9). No. 14: 3 has a wide lip approaching the B type, and since this lamp

came from the East Cave, its chronology is uncertain; it may belong to period B. No. 14: 7, however, also came from the East Cave, and yet is almost certainly LB. For the difference between C and B cf. the profiles of the C lamps on pl. 48 with those of the B lamps pl. 50: 6 and 51: 1, 6.

60. Characteristic of C<sub>2</sub> were fragments of imported Mycenaean vases, pictured on pl. 15. Most of these sherds were found in undoubted C stratification, none in clear C<sub>1</sub>; the others have, however, for the most part, been included in the group, since no one doubts now that the extreme range of these importations into Palestine lies between the fifteenth and the early twelfth centuries, with the probable span from before 1400 to about 1200, or a little earlier. The best discussions of this subject are by Fimmen, *Die kretisch-mykenische Kultur*, p. 161 ff., and Pendlebury, *Jour. Eg. Arch.*, 16 (1930), 75 ff. Their data may be supplemented by more recent discoveries at Beth-shan, where a fine three-handled piriform vase, of good Mycenaean type, was found by Rowe in the Tuthmosis III stratum (unpublished), and at Qatna (el-Miṣrifeh) where du Mesnil has found two equally early Mycenaean vases in a room of the temple of Nin-egal, destroyed by the Hittites before the death of Amenophis III, i. e., shortly before 1375 B. C. (see du Mesnil, *Syria*, 1928, pl. XVII-XVIII, and especially Dussaud, *ibid.*, 133 ff.). All these vases are pre-Amarna in date, as well as in type. Pendlebury has demonstrated that there was a complete shift from Minoan to Mycenaean importations into Egypt and Palestine about the reign of Amenophis III. I should be inclined to raise the date somewhat, placing this shift somewhere in the second half of the fifteenth century, since the Tuthmosis stratum at Beth-shan must in any case be dated before the beginning of the reign of Amenophis III (cir. 1415 B. C.). Pendlebury has given additional reasons for regarding this shift as due to the overthrow of the Minoan empire by the Mycenaean; cf. on the historical background Wace, *Journal of Hellenic Studies*, 1926, 116; Forrer, *Reallexikon der Assyriologie*, I, 53-7; Hrozný, *Archiv Orientální*, III, 1931, 292 ff. (Hrozný's suggestion that Ahhiyawa is Rhodes is interesting in the light of the archaeological fact, not mentioned by him, that Rhodes was a center of the manufacture and exportation of Mycenaean pottery). I would only push the date of the Mycenaean conquest of Crete back toward the middle of the fifteenth century—cir. 1430, in round numbers.

61. Following are the sherds of Mycenaean type, with their description (which my colleague, Professor D. M. Robinson, has kindly revised). No. 1, with a buff slip, light red and black lustrous paint, belongs probably to a one-handled cup (cf. *Catalogue of Vases in the British Museum*, I, 1, 149, etc.),

or possibly to a two-handled stemmed goblet (cf. CVBM I, 1, 152-5, and I, 2, 117-9, especially C 616 on p. 119). Nos. 2-3 are bases of three-handled piriform jugs or possibly of stirrup-vases, and are painted with bands varying from light to dark red in color; no. 2 has a diameter of 6 cm. No. 4 is another base, with lustrous sepia painted bands; the diameter is 5.5 cm. Nos. 5 and 14 belong to a squat two or three-handled vase of the form described below, § 62, where we have Canaanite imitations of our Mycenaean type; for the original cf. Grant, BSG 163: 1, left, etc. No. 6 is the handle of a small jug like CVBM I, 2, 113; the paint is sepia to black on pale buff, as before. No. 7 comes from the rim of a crater like CVBM I, 1, 174 (A 953-7), 187 (A 996, 1-2), etc.; the rim is thin, slightly everted, the painted ornament is light red to sepia, and there are two red bands just inside the rim. No. 8 is the rim of a one-handled cup or a long-stemmed goblet, like no. 1; on the pale buff surface are bands of lustrous red paint outside and inside the rim, while the interior is covered with a burnished red slip. No. 9 probably belongs to the rim of a three-handled piriform jug, like CVBM I, 1, 88 ff.; the decoration is in bands, painted in red to black, with two bands on the rim, and a broad band inside the rim. No. 10 seems to be the shoulder of a vase of the same type, with bands in red to black paint on pale buff, as usual. Nos. 11, 12, 15, 18-20, 22 are fragments of the walls of stirrup-vases (*Bügelkannen*), while nos. 17, 23 are bases of stirrup-vases; no. 11 is light red on pale buff, 15 is red to black on the same ground, 18-20 are all red, 22 is sepia to black, and no. 12, which also gives us part of the shoulder, is sepia to black. No. 13 belongs apparently to the wall and shoulder of a three-handled piriform jug, like BPM, No. 3, pl. VII: 1, etc. (see on nos. 2-4 above); the decoration is light red and black on cream slip over pale buff clay. No. 16 differs from all the others in not having lustrous (burnished) paint; it is matt red on a yellowish buff surface, but with the same finely levigated clay as in all exported Mycenaean ware. The design is probably part of the loop of an octopus (so also Robinson), and the sherd may belong to a vase with small neck, rounded tapering body, like CVBM I, 2, 116 (C 600). No. 21 also suggests the octopus motive, but the type of vase to which it belonged is obscure; the paint is lustrous red on pale buff. A tilted Mycenaean loop-handle from a large vase will be found pl. 16: 10 (included there by mistake), and the lower part of another vase (trumpet-foot broken off) is shown on 22: 25.

62. All these Mycenaean vases were imitated by local Canaanite potters, with conspicuous lack of success; the imitations first appear about the thirteenth century, and sometimes occur late in El I. The only type which became really common in imitation is the squat two or three-handled vase,

like nos. 5, 14 above. Three examples of this class of imitation were found at our site; two (47: 9, 44: 4) certainly belong to period C, while the third (44: 3) may belong to period B. The first, which happens also to be the only one found in exclusively LB context, is a direct imitation of a Mycenaean prototype; it has black painted bands on a highly burnished red slip. The second, from the East Cave (cf. photograph, pl. 14: 9), has dark red paint on a reddish buff surface, without burnishing. The trellis pattern is characteristic of LB vases of this form; cf. the two specimens given BM, pl. 43: 2, 5, and the independent drawing of the former in BPM, No. 3, pl. VII: 8. The third vase is reddish buff, burnished in irregular horizontal strokes (without a slip), and may belong to EI I, since it was found in unstratified débris; it is included here because of its form. The handles on all three are tilted lug-handles, not loop-handles, as in Greece.

83. Base-ring ware was imported into southern Palestine in great quantities during the entire C period (for its importation in period D see above, § 39A). This pottery is so well-known that no comparative discussion of the Syro-Palestinian material is necessary; for Cyprus see SPC 185-93, and for occurrences in Egypt and Palestine see SPC 310 ff. It would be easy to add to Gjerstad's list from material inaccessible to him, but nothing new would result, so we refrain. Our sherds are represented on pl. 17: 1-17 (first two campaigns) and 16 (third campaign), while a base, from the first campaign, is shown in drawing on pl. 49: 9. 17: 1, 16: 1-5, 7, 28 belong to the mouth and neck of large vases of the oenochoe or wine-jug ("būbil") variety. Corresponding pieces of small, skew jugs of the same general form are 17: 7, 16: 8, 16-17. Bases of large oenochoes are 17: 13-17, 16: 33-41. Sherds from other parts of the same type of jugs are numerous on both plates. Bases of small skew jugs are 17: 10, 16: 30. Handles of oenochoes are 17: 12, 16: 21, etc. The rim and wall of bowls are represented by 17: 2 and 16: 6, while pseudo-wishbone handles of such bowls will be found as 17: 6 and 16: 14-15, 22-27. For 16: 10 see above, § 61, end. All this ware is thin, hard, and metallic both in appearance and in resonance. The original place of manufacture was almost certainly in Phoenicia (to which Cyprus, of course, belonged culturally from the earliest times), but it is still impossible to determine whether any base-ring ware was manufactured on the Palestinian littoral, or whether all of it was imported.

64. Imported white-slip ware is illustrated in the photographs pl. 17: 18-46 and 18, as well as in drawings on pl. 49: 4, 6-8, and 46: 20, 39. All, without exception, belong to wishbone-handled bowls. Most of the fragments have a white or cream slip over light gray or grayish buff clay, but a few



seem to preserve the original color of the surface. A few have a strong bluish tinge. The trellis or ladder pattern (originally a skeuomorphic imitation of seams in leather, according to the now generally accepted view) is not sufficiently varied to form the basis for dating. It might seem, on the other hand, that some basis for studying the evolution of the decoration might be found in the variations of the linked or dotted line, 17: 18-19 (links), 20, 23 (dots), as has been supposed by some. Against the view that the links are older, on the whole, than the dots, is the evidence from the sherds of this type found by us at the greatest depth, and perhaps C, in date, as well as the material from Beth-shan, where Rowe found several sherds (before me in photograph as I write, thanks to the courtesy of Mr. Rowe), as well as one nearly complete bowl of this class in the Tuthmosis III stratum; one has links, one has dots, while one has both links and dots. The fragments from Gerar found at the greatest depth show dots, above them were found links, and still higher dots, though the depth need not always be indicative of age, within a given stratum (*Gerar*, pl. LXIII: 3-13). It should be observed that many of our sherds (perhaps one-fourth) were found in débris of doubtful age, though the period to which they belong is absolutely certain, both from the fact that no such sherds were discovered in any clear D or B context, and that this class of pottery only occurs in LB context elsewhere in Palestine. Like base-ring ware, our type began to be imitated toward the end of the LB, and especially after its importation had ceased, in the transition to EII. Just as in the case of base-ring ware, we are in doubt whether white-slip ware was manufactured to some extent on the Palestinian littoral, or was entirely imported from the north. For the material available for its chronology, as well as for other problems connected with it see SPC 194 ff., 310 ff. It may only be added that Gjerstad is too insistent on the Cyprian origin of the white-slip ware found in Syria, Palestine, and Egypt. In the writer's opinion, most of this ware, which differs from the Cyprian in showing little or no difference of color between the clay and the slip, was manufactured in Phoenicia, just as was originally conjectured by Petrie.

65. The LB was the most flourishing age of painted pottery in the entire pre-Islamic history of Palestine. On plates 19-20 and 22 will be found photographs of painted sherds of local Palestinian origin, while drawings will be found on pl. 46-7. Following are the descriptions of the sherds illustrated on pl. 19 (from the 1930 campaign, all of certain C provenience): Nos. 1-3 are vertical loop-handles of jugs (like 47: 15), with the characteristic cross-line, radial, or spoke design of LB; nos. 1-2 are buff with reddish brown paint, while no. 3 is the same with dark brown paint. No. 4 is part of a bowl with

inverted rim, reddish buff surface, reddish brown band inside the rim, and two concentric reddish brown bands inside the bowl, at some distance from the rim. Between, at right angle to the rim, is a wavy line between two straight ones, all in the same color. No. 5 comes from the wall of a jug, and shows at the left an ibex (?), probably in metopic frieze, the right side of which is formed by straight line, wavy line, and net, all in light red on a creamy gray slip. No. 6 comes from the wall of a large bowl or jug, with comparatively small neck (on its side in the photograph); the paint is reddish brown on buff surface; the thickness of the wall is 13 mm. No. 7 is like no. 4, with a purple band inside rim. No. 8 is a jug, with pinkish buff surface and dark red paint. No. 9 is the same. No. 10 (upside down) belongs to a small jug, with tilted horizontal lug-handle (of entirely non-Philistine type), reddish buff clay, cream slip, dark reddish brown bands; see § 68, on 22: 2. No. 11 is again like no. 4, buff surface with cream slip and brownish red paint. No. 12 comes from the mouth of a pitcher, with buff surface, alternate bands of red (above and below) and black. No. 13 belong to a wide-mouthed jug, red bands on buff. No. 14 comes from a jug (?), light red on buff. Nos. 15-17 come from the walls of jugs; no. 15 is reddish brown on buff, no. 16 is reddish brown on a cream slip, no. 17 is dark reddish brown (almost purple) on grayish buff surface. No. 18 is like no. 11, but has no slip; the parallel lines across the inside of the inverted rim, at right angles to the edge of the bowl, are very common in LB. No. 19 is like no. 9, but with darker bands. No. 20 belongs to a jug, buff surface, cream slip, dark reddish brown lines.

66. On pl. 20 the photographs of painted sherds of unquestionable C provenience are continued. No. 1 comes from the wall of a large jug, with buff surface and red paint. This sherd came from C<sub>1</sub> below the conflagration level, and, therefore, dates from the fifteenth century. It is interesting to note that the double triangle is particularly common in Beth-shan during the Tutmosis III period, and disappears almost entirely after the fifteenth century. In Jericho (destroyed, according to Garstang's latest results, about 1400 B. C.), this decoration also appears (J 129, figs. 135-8), presumably in the fifteenth century (possibly late sixteenth). Pl. 46, no. 29, is a curious modification of the double triangle by the attachment of a head, arms, and legs, to represent a man; the exact date is uncertain, but the technique is identical with that employed in our sherd, no. 1. No. 2 belongs to a large bowl with the rim characteristic of the latter part of C; the surface is buff, with cream slip and dark reddish brown (almost purple) paint, as well as with an incised raised band. This last peculiarity is very rare in LB, though by no means entirely unique in our site. No. 3 comes from a bowl shaped

much like no. 2, but with more pronounced earination and vertical loop-handles; the surface is reddish buff, the slip creamy, and the paint reddish brown, with painted lines across the rim. No. 4 is the inside of a shallow bowl, with a trellis pattern painted in red on a buff surface; for the same pattern also on the inside of a shallow bowl see G II, 191-2 (Macalister calls this pattern a "panelled zigzag"). No. 5 comes from the rim and side of a bowl with buff surface, a black band running horizontally along the carination, and criss-cross design (black and brownish red) in a rectangular frame between the empty panels of the frieze. For such criss-cross paneling cf. BSF, pl. XLII: 25 (about 1400 B. C.), XLIII: 19 (same date), and especially XLVI: 5, 11, etc. (no. 11 belongs to a bowl of approximately the same form as ours), both from about 1300 B. C. Examples from other sites are numerous, but nowhere so exactly dated. No. 6 comes from the wall of a jug (not bowl), with reddish buff surface and red paint; the checker pattern, with criss-cross design in each square, is like APEF II, pl. XX: 7 (from LB) and somewhat like G III, LXXXVIII: 19, from a tomb-group belonging to the transition from LB to EI I, probably the first half of the twelfth century or a shade earlier. The checker pattern itself appears at Beth-shan in the fifteenth century stratum (unpublished material of Mr. Rowe). No. 7 also comes from the wall of a jug, with elaborate pattern in dark red on a reddish buff surface, composed almost entirely of wavy lines between straight ones; this jug belongs to C<sub>1</sub>. No. 8 belongs to a bowl with earinated body and vertical lines of red between horizontal red bands on upper part of vessel. No. 9, from a jug, has brick red clay, covered with a cream slip on which are sepia wavy lines between red straight ones. No. 10 is the rim of a bowl of crater form, with reddish brown on buff surface. No. 11 belongs to the shoulder of a jug with vertical loop-handle, a reddish buff clay, burnished cream slip, decoration in dark brown and light brown lines; for the criss-cross paneled frieze see on no. 5, above. No. 12 comes from a jug, with reddish buff surface, line-burnished, and paint varying from orange red to dark brownish red. No. 13 is the upper part of a bowl, grayish buff surface, sepia wavy lines between light reddish brown straight ones, probably forming a band between panels of a metopic frieze, like no. 5. On the rim is a painted band (note the slant of the painted panel). For the decorative motif cf. G III, pl. LXVI: 50, a bowl with the same paneled frieze, from a characteristic LB II tomb. No. 14, from the inside of a small bowl, has reddish brown on buff. No. 15 is the neck and rim of a jug, with dark brownish red on buff. No. 16, from the upper part of the wall of a jug, has sepia wavy lines between light brownish red straight ones, on a reddish buff surface. No. 17 belongs to a jug, reddish brown on buff;

the palm-tree motif is particularly common in LB. No. 18, from a jug, has buff surface, carelessly burnished cream slip with characteristic LB ibex in dark reddish brown. No. 19 (from a bowl?) is painted in dark reddish brown on buff. No. 20 is part of a jug with vertical loop-handle, painted in dark red on light reddish buff. No. 21 has buff surface, brown paint. No. 22 comes from the inside of a bowl, with buff surface, red paint, with the same trellis pattern as in no. 4, though smaller. No. 23 has brown paint on a grayish buff surface. No. 24 has a creamy buff surface and dark brown paint. No. 25 is dark reddish brown on reddish buff. No. 26 belongs to the wall of a jug like pl. 47, no. 10, and exhibits sepia lines crossing on a red to buff surface.

67. Pl. 46, nos. 25-41, represents painted sherds from the East Gate, all probably belonging to period C, like most of the pottery from this cave. No. 25 is reddish buff, with dark red decoration; at the left is an ibex. No. 26 belongs to a jug with vertical loop-handle; the color is the same. No. 27 is in faded brown on a cream slip, over buff clay. No. 28 shows alternate bands of dark red and sepia (nearly brown). No. 29 comes from the wall of a jug. The double triangle motif points to LB I (fifteenth century). The decoration is in dark red on buff. Representations of the human form are very rare in Canaanite painted pottery; ours is really nothing but a double triangle with head, arms, and legs attached; see above, § 66 on pl. 20: 1. No. 30 is dark red on buff. No. 31, reddish brown on buff, represents some animal. No. 32 is light red on buff, with black in the middle. No. 33 is light red on creamy buff. No. 34 is reddish brown on cream slip. Nos. 35 and 37, both reddish brown on buff, belong to the same class as the handles pl. 19: 1-3 (§ 65). No. 36 comes from the rim and wall of a carinated bowl with vertical loop-handles; for the decoration, reddish brown on cream slip over reddish buff clay, see above, on 20: 5. No. 38 is reddish brown on buff. No. 39 comes from a wishbone-handled bowl. No. 40 is light red on creamy buff. No. 41 is a tilted loop-handle of early type, with dark red and black paint on a cream slip, over light red clay; it has nothing to do with the Philistine pottery of EI I, but is evidently an imitation of Mycenaean work, as may be seen by comparing the almost identical form and decoration of the handle illustrated by Furtwängler-Löschke, *Mykenische Vasen*, pl. XL, no. 414b.

68. The painted sherds from stratum C illustrated on pl. 22: 1-26 were found in the 1928 campaign; I have unfortunately mislaid the description of the individual sherds, which must, therefore, be omitted, except where it can be given from memory. Nos. 1, 6 are painted handles of the same type as 19: 1-3 and 46: 35, 37, described above; the painting is red on buff in both cases. No. 2 is a squat jug, with two tilted lug-handles like 19: 10, and some-

thing like those already described in § 62, though the body is more rounded and the handles are lower down; it is also ultimately imitation of Mycenaean work. No. 3 is a jug with the same general shape and type of decoration as pl. 47: 10. On no. 13 the head of an ibex is visible. No. 22 comes from the center of one side of a lentoid flask, painted with concentric circles in red and sepia (for black). No. 25 comes from the lower part of an imported vase with trumpet-foot, probably Mycenaean; see § 61, end. We have, finally, two painted jugs from stratum C represented in outline, pl. 47: 10, 15. The former has a buff surface, with at least three groups of more-or-less parallel stripes of painting, three red alternating with two blue, in each group. The latter has dark red paint on a buff slip. The frieze around the upper part of the carinated body is formed by alternate single and double wavy strips. The handle is like those mentioned at the beginning of this section.

69. On pl. 21 are illustrated miscellaneous sherds from our third campaign, all of certain C provenience. No. 1 is the loop-handle of a rather coarsely made jug; note the smooth oval section typical of LB, as well as of EI I. No. 2 comes from a bowl with two handles and inverted rim, like 47: 12. No. 3 comes from the neck and rim of a burnished jug like 14: 8, and like it, may come from C<sub>1</sub>. No. 4 is the neck of a juglet imitated from the small *bilbil* of Cypro-Phoenician type. Nos. 5-11, 39-42, 46-51 are all cooking pot rims of the typical C<sub>2</sub> type, which is generally very hard to distinguish from cooking pot rims of EI I; cf. § 55, above. No. 40 has a collared rim, and no. 42 has a rim oddly thickened on the inside (but hardly to be called inverted). No. 42 may have come from stratum D originally, but a number of rims of this type (perhaps the prototype of our cooking pot class) were found in clear C<sub>1</sub> context, so it seems probable that this type survived into the fifteenth century, when it was replaced by the sharply profiled or collared type, which then lasted down into the tenth century. Nos. 12-18, 20, 36-8, 44-5 are all rims of bowls with inverted rim; see § 53, and fig. 8, which shows some typical rim forms. Nos. 19, 33-34 are rims of amphoras or of store-jars; no. 34, which probably belongs to C<sub>1</sub>, shows the same type of profile as the MB II jars described above, § 28. Nos. 22-31, 56-7, 59 are bases of bowls and jugs. Nearly all are ring-bases; several have a peculiar centripetal beveling which is only found in period C, and which I have also found in LB ring-bases elsewhere in Palestine. None of the bases have been so carefully smoothed after turning as was the case in period D; wheel-marks are common (cf. no. 27), especially on disc-bases, but are seldom so roughly made as in period B. Characteristic of this beveling on the inner side is the clear, but very shallow inner edge. No. 56 has a rounded ring-base, of an uncommon type.

No. 32 is the collared rim of a pitcher, with red band on the rim. No. 43 is another collared jug rim, of almost the same form as the collared jug rim which returns in the EI III, and continues into the Hellenistic period. The principal difference seems to be in the form of the vase as a whole and the amount and size of the grits in the paste. For no. 53, the neck of a lentoid flask, see above, § 57. No. 54, reddish buff, is the pinched spout, neck, and handle of a typical LB pitcher. No. 55 is the haudle and part of the rim of a deep bowl of the type shown in pl. 47: 13 (see § 54). For the pared alabastroid jugs, nos. 58, 60, see above, § 56. No. 61 is a frsgment of a squat,



Fig. 9

two-handled juglet (with tilted horizontal lug-handles), buff with brownish red paint; for this type see § 62.

70. On pl. 22: 27 ff. are illustrated selections of sherds from two silos (grain-pits) of undoubted C date: nos. 27-38 belong to silo 13 (1928 campaign), while 39-51 belong to silo 15. Nos. 27-29, 39-42 are cooking pot rims. Nos. 30, 32, 47-8 are inverted rims of bowls. Nos. 31, 33 are jug rims of typical LB character. Nos. 34, 43 are sherds from the walls of large vases, both painted matt red on buff. Nos. 35-6, 46, 51 are bases of jugs and bowls of various types. Nos. 37-38 are flint artifacts; no. 37 is a sickle-edge, and no. 38 is a broken knife. Nos. 44-5 belong to base-ring vases; no. 49 is a Palestinian imitation of a Cypro-Phoenician white-slip bowl (wishbone-

handled). No. 50 belongs to a thin-walled bowl of the type illustrated pl. 45: 24.

71. For the question of the date of the end of period C we may refer to the discussion at the beginning of the next chapter, since there was no interval of abandonment between C and B, as was undoubtedly the case between D and C. The foundations of houses and city wall of city B were laid in the ashes of the conflagration which destroyed C; cf. APB 101. The only direct evidence from the side of C which proves a date well toward the end of the thirteenth century is a scarab of Ramesside type found in the débris of stratum C (fig. 9). This scarab shows the Pharaoh smiting an Asiatic prisoner with the Egyptian scimitar (*hâpeš*); the *wsr* sign, part of the pre-nomen of Ramesses II (cir. 1300-1234), is behind the king. For scarabs of the same general type see Hall, *Royal Scarabs*, pp. 221-2, where nos. 2214-5 and 17 resemble ours very closely, even to the *wsr* sign behind the king; cf. also Petrie, *Scarabs and Cylinders*, pl. XL, nos. 24-5. The corruption of the name of the king proves that a considerable length of time had elapsed between the first manufacture of scarabs of this type and their common imitation in such corrupt form, so we are safe in dating this scarab not earlier than the latter part of the king's reign, i. e., not before cir. 1250 B. C. The steatite scaraboid fig. 7, no. 2, from SE 12C, also dates from the Nineteenth Dynasty; cf. Petrie, *op. cit.*, Z 35, from the reign of Ramesses II.

## CHAPTER V

### STRATUM B (EARLY IRON I)

72. With stratum B we enter the Israelite period (cf. APB 100 ff.; ZAW 1929, 13; JPOS 1931, 119-122). As has already been observed, there was no appreciable interval between the destruction of city C and the reoccupation of the city by the B people. Our ceramic chronology has been very greatly advanced in stratum B by a circumstance which seemed at first likely to spoil our excavation of this level. The stratum is full of round silos (grain-pits), some large and some small; wherever we dig in this level we come across them. While the silos were generally dug down into older strata, they were lined with stone, coated on the inside with limestone marl (*hūwar*), so that all their contents must have fallen into them after they were finally abandoned for some reason. Most of these silos were used down to late in period B, but some of them, as we shall see, were early abandoned and filled in. The débris which filled them was practically all from the surface, and thus contained very few sherds of the preceding stratum. Around the outside of the silo wall, above the true LB level, we sometimes found LB sherds, indicating that some of the material removed from the pit excavated in antiquity for the construction of a silo was left on the ground by the silo. As a rule, however, this material was carried away, and dumped outside the walls. As an illustration of the surprisingly small admixture of earlier artifacts found in the silos, it may be said that not a single sherd of obvious LB character, such as wishbone-handled or base-ring ware, Mycenaean pottery, inverted bowl-rims, etc., was found in any silo belonging to stratum B. In our third campaign we were able to distinguish different floor-levels in houses, corresponding to the division of period B into three sub-periods, B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, which we had made in the second campaign. Details will be given below.

73. The absolute chronology of stratum B depends largely upon two considerations, the date of the Philistine invasion, shortly after which Philistine pottery was introduced into the Shephelah, and the date of Shishak's invasion, when city B was destroyed (for the evidence see § 98 and APB 105 ff.). The question of the date of the Philistine invasion is indissolubly connected with that of the correct attribution of the so-called Philistine pottery. If this pottery is not characteristically Philistine, i.e., if it was not introduced into the southern Coastal Plain by the Philistines, and was not diffused by their conquests and commercial relations, then the date of their irruption into Palestine is irrelevant. We must, therefore, consider first the question of the



attribution. The first scholar to call attention to the Mediterranean background of the class of pottery under discussion was F. B. Welch (PEFQS 1900, 347-9 (cf. *Annual of the British School at Athens*, vol. VI, 117 ff.), who correctly saw that it was post-Mycenaean and thought it had its closest analogies in Cyprus. The date he placed, misled by the low date then given to much of the so-called Graeco-Phoenician pottery, between the ninth and the seventh centuries. The next Aegean archaeologist to study this pottery was Thiersch (*Archäologischer Anzeiger*, 1908, col. 378 ff.), who was the first to term this ceramic "Philistine," and to stress its derivation from sub-Mycenaean types of the Aegean (the Philistines came from Caphtor in the Aegean basin!), as well as to stress its difference from Cyprian pottery of the geometric style, despite the superficial resemblances. A third Aegean archaeologist, Duncan Mackenzie, then excavated at Beth-shemesh, where he found quantities of this pottery, which he also called "Philistine." Mackenzie emphasized the Aegean source of this type of pottery, and pointed out, as a result of careful stratigraphical observations, that there was a gap between the level at which the latest sherds of imported Mycenaean and Cypro-Phoenician pottery were found and the higher level where Philistine sherds began to occur. This stratigraphical lacuna he interpreted as a period of some length during which the importation of the earlier pottery stopped, before the beginning of the importation of Philistine vases. The interval he assigned to "a period lying somewhere between 1300 and 1100 B. C." (APEF II. 33-6). After the War, in 1920-1, Pythian-Adams, while assisting Garstang at Ascalon, made some scarp-sections in the old mound which yielded important new evidence. Pythian-Adams' conclusions were described in an important paper, "Philistine Origins in the Light of Palestinian Archaeology" (BBSA, No. 3, 1923, 20-27), in which he showed that the closest analogies to Philistine pottery yet found in the Mediterranean region were in the sub-Mycenaean and proto-geometric of Greece (see pl. I, opposite p. 24 in his paper), i. e., in Greek ceramic from the thirteenth-eleventh centuries B. C. He further showed that the stratum containing imported Mycenaean and Cypro-Phoenician sherds was separated from the higher stratum containing Philistine pottery by a continuous burned level, evidently marking the destruction of the Canaanite town by the invading Philistines. Pythian-Adams went on to say (p. 21): "The importance of the new culture lies in the fact that neither the vase shape itself nor any of the designs is to be found in Palestine before the Early Iron Age. Their sudden appearance shows them to have been introduced from without, but, while the true Cypriote-Mycenaean wares of the preceding period can be proved by their paint [as well as by

their paste and technique] to be foreign imports, easily distinguishable from the crude local imitation which accompanied them, no such distinction exists among the vases which we are now considering. All of these, as we have said, are of purely local manufacture nor is there any trace of any imported vase-model from which they might have been copied by the native Palestinians. We may infer, then, that they owe their presence to the arrival of foreign invaders and that these invaders became permanent settlers in the Maritime Plain." The next light on the subject came from Gerar (Tell Djemmeh), where Petrie (*Gerar*, pl. LXIII) found numerous wishbone-handled bowl sherds at the elevations 160-174, whereas the even more numerous Philistine sherds did not make their appearance until 176, continuing until about 183. At elevations 176-7 were found a number of sherds belonging to decadent local imitations of the former class, such as occur at the beginning of the Iron Age in most sites. Finally, at Tell Beit Mirsim we found a period, B<sub>1</sub>, represented by the pottery from several silos, between the close of the importation of Cypro-Phoenician and Mycenaean ware on the one hand, and the beginning of the importation of Philistine pottery on the other, just as at Beth-shemesh, according to Mackenzie's observations. It can hardly be accidental that at the two coastal sites, Ascalon and Gerar, there is little or no gap, whereas in the two inland towns; Beth-shemesh and Tell Beit Mirsim, there is a considerable lacuna. The end of the sway of this class of pottery falls late in the eleventh or early in the tenth century at both Tell Beit Mirsim and at Gerar, as we shall presently see (§ 98, below), and is thus roughly synchronous with the end of Philistine domination outside of the Pentapolis. The geographical extension of this pottery is even more strikingly in accord with the Philistine theory. "Philistine" pottery occurs all over the territory occupied by the Philistines in the Coastal Plain, as at Ascalon, Qatra (Ekron?), Hirbet el-Muqenna' (Eltekeh), Šeiḥ Aḥmed el-'Areinī (Gath), etc., etc. To the south and southwest of the land of the Philistines it occurs at Gerar and Tell el-Fār'ah. In the Shephelah of Judah we find it at every site so far excavated, from Gezer and Beth-shemesh on the north to Tell Beit Mirsim on the south. At Tell el-Ḥesī very little of this pottery was found, in accord with the fact that there was apparently an interruption in its occupation about this time. No Philistine pottery was found in the Early Iron levels at Beth-zur, Jerusalem, and Gibeah, all on the watershed ridge. A few pieces were found at Tell en-Naṣbeh (Ataroth), still further north, but here this pottery seems to stop. On the Coastal Plain we find it as far north as Tell ed-Djerīšeh (Suknik'a unpublished excavations), northeast of Joppa, but when we go still farther north, to Dor

(Tanṭūrah) it stops (BBSA, No. 4, 42). No Philistine pottery had been found at Megiddo by 1929 (oral communication of Fisher and Guy), and none has been found in the rich Early Iron level at Beth-san, extending down to about 1000 B. C., and particularly productive of twelfth century objects (BSF 12, above). I have personally found Philistine sherds on every single site of the Early Iron Age which I have examined in Philistia, but nowhere outside of it. In view of this cumulative evidence, there seems to me no serious reason for rejecting the identification. The principal objection adduced is that prototypes may be found in LB Palestine (none good, however) and that there are many graves which contain both LB and Philistine vases (all of which are burials of the necropolis type, covering a period of generations). As we shall see in a forthcoming paper in *AJA*, Petrie's chronology for the Tell el-Fūrah remains of our category is almost as much too high as his earlier Gerar chronology, and cannot, therefore, be brought against our position. For the arguments of Vincent and his pupil, Saussey, see RB 1922, 102 ff., 1926, 466, and *Syria*, 1924, 169-85.

74. Our next problem is chronological. When did the Philistine invasion take place? Since our only definite evidence comes from the inscriptions of Ramesses III, we must turn to Egyptian data, and must be pardoned a short excursus, which has no direct connection with the subject of Palestinian pottery. As is well-known, Egyptian chronology is fixed astronomically (with an uncertainty of some four years, on the average) during the period from Amenophis I to Amenophis II, inclusive (cir. 1555-1440). Then our ignorance with regard to the length of two reigns introduces a greater amount of uncertainty, which continues until the end of the Eighteenth Dynasty. The reign of Ramesses I and the accession of Sethos I seem now to be fixed by calendaric evidence in the years 1319-8 B. C., again with an uncertainty of not over four years (see Sethe, *Zeitschrift für Ägyptische Sprache*, 66, 1931, 1 ff.). However, we do not know how long Sethos I reigned, so we are again faced with an uncertainty of not over fifteen years in the dating of Ramesses II. The safest conclusion is that Sethos I reigned 19 years, following Josephus' version of Manetho, since here the reigns of Ramesses I and II are correctly given, though Ramesses II and Sethos I are transposed, and there are other errors. We may then provisionally date Sethos I cir. 1318-1300 B. C. and Ramesses II cir. 1300-1234 B. C. (the reign of the latter thus falling at approximately the date set last by Eduard Meyer, 1298-1232). Ramesses II's successor, Menephtes, reigned at least 8 years (cir. 1234-1227), after which the empire fell into anarchy for a period of at least 12 years (plus the unknown period of domination by a Syrian usurper). Then came the

short reign of Naht-sûteh (Sêth-naht), followed by the 31 year reign of Ramesses III. If we approach the question from the other side, we must start with the accession of Shishak, head of the Twenty-second Dynasty, whose twenty-first year fell after (but not long after) the fifth year of Rehoboam. The accession of Rehoboam has been placed by the two latest writers of competence, Begrich and Mowinkel, at 926 or 930 B. C. (see Begrich, *Die Chronologie der Könige von Israel und Juda*, p. 155; APB 199, n. 96; Mowinkel, *Acta Orientalia*, X, 1932, 271 ff.). It would take too long to give my reasons for adhesion to Begrich's chronology against Mowinkel; I hope to do that in another place. Suffice it to say that we may safely place the fifth year, in my opinion, about 922 B. C. In this case the accession of Shishak would fall between cir. 940 and cir. 930, with the former date the more probable (ZAW 1929, 9, n. 3, I placed it about 935 B. C., following Lewy's chronology, which is five years too low). Both Africanus and Eusebius, in their epitomes of Manetho, give the duration of the Twenty-first Dynasty as 130 years, a figure which would place the beginning of it about 1070 B. C. (instead of 1065, as I formerly reckoned); Eduard Meyer's dates (*Geschichte*, II, 2<sup>2</sup>, 18 ff., 56 ff.) are 950 and 1090, respectively, but there are two errors in his system, first with regard to the date of Shishak's accession, second with regard to the length of the Twenty-first Dynasty, where we are not justified in considering all the regnal years as successive, when we have known coregencies in the Twenty-second Dynasty. The duration of the Twentieth Dynasty was at least 102 years (Peet, *Journal of Egyptian Archaeology*, 1928, 52 ff.), so we may date it about 1180-1070 B. C. The reign of Ramesses III may then be dated about 1080-1050 B. C., a date which cannot be far wrong. The great advantage of this reduction of the currently accepted date (cir. 1200-1170) is that we now have room for the period of anarchy and foreign domination between Menephtes and Naht-sûteh, which so completely interrupts the history of the Egyptian Empire, both in Egypt and in Asia. It was during this obscure period that Israel established itself firmly in Palestine. Another great advantage in our reduced chronology is that we can now place the time of the irruption of the Muške (probably the Phrygians) into northern Mesopotamia, which took place, according to the annals of Tiglath-pileser I, some 50 years before his time (i. e., before his accession cir. 1110, according to the revision imposed by our new royal and eponym lists), in close relation to the irruption of the northern barbarians into Syria and Palestine, early in the reign of Ramesses III.

75. The invasion of the Philistines took place, according to the annals of Ramesses III on the temple walls of Medinet Habu, in his eighth year (cir.

1170 B. C., or a little earlier). The recent discovery of two new monuments from the reign of Ramesses III at Beth-shau, as well as the thorough study of the Medinet Habu records by the Oriental Institute of the University of Chicago, has shown that we cannot safely assume an earlier invasion, as has occasionally been supposed. The Philistines were evidently settled in the Coastal Plain by permission of the Pharaoh, as becomes clear from references in his inscriptions. The Philistine population may well have increased later through fresh immigration, but the commencement of their occupation must be placed not far from 1170 B. C. The first chronologically established appearance of Philistine pottery is in the ruins of the palace of Ramesses III at Tell el-Yahūdiyah, about 1150 B. C., at the latest (Petrie, *Hyksos and Israelite Cities*, pl. XII, especially nos. 6, 10, 12, 13). Since we must allow a certain lapse of time before the Philistines were able to consolidate their power and begin to influence neighboring territory, either by armed raids or by peaceful trade, we are justified in assuming that Philistine pottery began to filter into neighboring towns about the middle of the twelfth century, cir. 1150 B. C., in round numbers. This gives us a maximum duration of a century for B<sub>1</sub> (see § 71), the pre-Philistine period, and a probable minimum duration of some fifty years (cf. § 79 for our estimate of about three generations).

76. Let us first consider the silos where we found only pottery of pre-Philistine type. Our conclusions of 1928 were fully confirmed in the 1930 campaign. In certain cases we could not be sure that the silo in question was of B date rather than of C, but this uncertainty arose only where there was little pottery, and that of indeterminate character, and where the relation of the silo to building levels and conflagration levels was doubtful. Our best silo for B<sub>1</sub> is no 24 (pl. 26: 1-27) in SE 22. Built in it and across it are silos 21 and 22, both of B date, while a house-wall of B<sub>2</sub> (Philistine phase) runs across silo 21. On the other side, our silo no. 24 is unquestionably later than the C conflagration, through the ashes of which it was dug. The sherds which silo 24 contains are mostly Late Bronze in general type, but with no very characteristic types, such as the inverted rim, though the latter is ubiquitous in C deposits. Pl. 26, nos. 1, 3-9, are all bowl rims, of various shades of buff, unburnished, none with typical LB inverted rims or with typical B crater rims. No. 3 shows a reminiscence of the inverted rim in the slightly everted edge of the rim (like fig. 8 f.) and the line running inside the bowl, below the edge, just where the inverted rim would begin to thicken. Nos. 2, 10-14 are jug rims, like the less characteristic LB types. Nos. 15-6 are typical C<sub>2</sub> cooking pot rims, but might just as well belong to a later stage of B, so far as our

present knowledge of the development of form is concerned. No. 17 comes from the wall of a large jug; the buff surface is hand-burnished in vertical strokes, with a band of wavy lines between straight ones in light red paint. The burnishing already suggests EII technique, though burnishing was occasionally employed in period C; the pattern is not characteristic, though much more common in LB than at any other period. No. 18 is the neck and rim of a pithos (store-jar), of characteristic EI I type; cf. numerous EI I store-jar rims from Beth-zur, in the 1931 campaign, as well as from Shiloh (Kjaer,

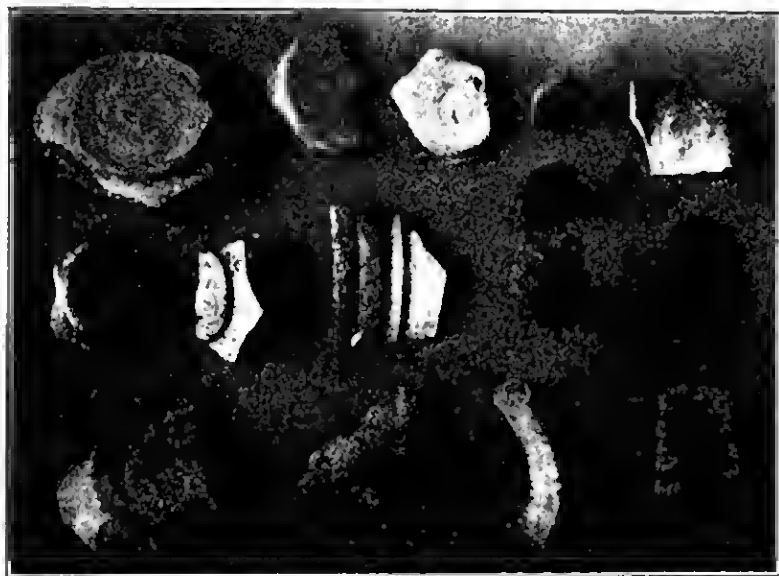


Fig. 10

*I det Hellige Land*, figs. 25-9), and from Gibeah, eleventh century B. C. Nos. 19, 22 are pithos handles; the latter has a typical C thickening at its base). No. 20 is the ring-base of a large unburnished bowl. No. 21 is the small flat base of an amphora, with typical C form. Nos. 23-4, 26 are disc-bases of bowls, all with very pronounced unsmoothed wheel-marks; nos. 25, 27 are flat bottoms of bowls, with equally pronounced wheel-marks. The pottery of silo 24 is, therefore, just what one would expect from its position with regard to walls and levels, i. e., decadent LB with some EI I types beginning to appear. It is safe to say that the pottery of B<sub>1</sub> is the worst in the history of southern Palestine between 2000 B. C. and 1500 A. D.

77. Another silo which belongs exclusively to B<sub>1</sub> is no. 14 (fig. 10), which

we were at first inclined to assign to period C, until it became clear that it was later than the burned level separating C from B. Silo 14 was abandoned before the construction of silo 6, the largest and most important one yet found in Tell Beit Mirsim. The disc-bases, nos. 1-3, 7, are like the disc-bases in silo 24; no. 6 is an inferior ring-base, while no. 12 is a ring-base exhibiting careless imitation of the typical LB beveling on the inner side of the base-ring, which we have already learned to recognize as characteristic of period C<sub>2</sub>. Nos. 4-5 are bowl rims, and nos. 9-10 are rims of cooking pots. No. 8, the rim of a jug with creamy buff surface, on which is a broad red band, belongs to EI I. No. 11 is a sickle-edge of late type. No. 13 is an amphora neck, with thickened, rounded rim characteristic of EI I, as in the case of the store-jars mentioned in the preceding section. No. 14 is a jug handle with a smooth oval section. No. 15 comes from the center of the wall of a lentoid flask, somewhat like those described above, § 57, but with coarser ware and broader painted rings, which become common in period B.

78. Another silo which was cut into by the builders of silo 6 was silo 3 (pl. 29: 1-12), found like no. 14 in the 1928 campaign. Silo 3, however, was disturbed by the digging of silo 6, so as to introduce later potsherds, or it was perhaps really occupied longer than no. 14. Nos. 1-4 are rims of bowls; all are plain buff except no. 4, which has a cream slip. No. 5 is an intrusive ring-burnished bowl rim from stratum A, which probably fell into the silo while the laborers were clearing it for us. No. 6 is a typical C-B cooking pot rim. Nos. 7-10 are painted sherds belonging to the same B<sub>2</sub> context as those from silo 6 shown on pl. 30. No. 7, from the wall of a jug, has a burnished creamy buff slip, with dark reddish brown bands of paint. No. 8 is the neck and collared rim of a jug with buff surface, a red band on the rim and two narrower ones on neck. No. 9 comes from the wall of a large jug, with vertically burnished creamy buff slip and a broad band of red paint; the thickness is 11-15 mm. No. 10 belongs to the wall of a jug, with vertically burnished buff slip (so), and bands of dark red. No. 11 is a broken lamp of typically B type, with broad flat rim. No. 12 is a part of the outside of a shallow bowl or plate, with a buff surface and no slip; on the flat rim is a broad band of red, inside is a wavy line running from rim toward center, and outside is an ornament of doubtful nature, which may possibly represent the neck, head, and horns of an ibex.

79. Besides the two clear B<sub>1</sub> silos, nos. 24 and 14, and the very unsatisfactory no. 3, we have a number of other clear cases, which have not been reproduced here, such as nos. 30, 43-4, 47-8 (both under B walls), and 51. In the B area excavated, about one-fourth of the silos found had been aban-

done, therefore, before cir. 1150 B. C. Since the total length of period B was probably about three centuries, this would suggest a duration of some three generations (75 years) for this phase, but would only prove, of course, that the duration was not negligible. It is a curious coincidence, and possibly nothing more, that the first mention of Israel, by Menephthes, about 1230 B. C. (see above for the chronology), lies some eighty years before the death of Ramesses III and the spread of Philistine influence, according to our system. In B<sub>1</sub> no imported sherds whatever have been found so far.

80. We next come to B<sub>2</sub>, the Philistine period. Before describing its pottery, we must consider the evidence bearing on its differentiation from B<sub>3</sub>, the latest post-Philistine phase of stratum B. In the 1928 campaign the area excavated was not large enough, and was too much pitted with silos to permit the discovery of much evidence outside of the silos themselves. In 1930, guided by the results of our previous campaign, we cleared a much more extensive area, and watched even more sharply for changes of floor-level and homogeneous deposits, a search in which we were aided by the fact that the area was not nearly so much disturbed. Over the entire area we found that the rooms and deposits of period B<sub>3</sub>, the latest level of occupation in B, contained no characteristic Philistine pottery at all, and hardly any tilted loop-handles, though forms introduced by the Philistines, such as typical crater-rims, were common. Other typical pottery of B<sub>3</sub> will be described below. In several cases we struck Philistine pottery first either in a lower floor-level (especially in SE 12 B-3) or under the occupation level of the latest B period. The small Philistine jug no. 1445 (pl. 51: 18) was found on a flat stone which covered the mouth of silo 43 in SE 12 B-3; it is of brownish clay, with a creamy gray wash, on which is painted a band, spiral, and loop decoration in black and brownish red. In the silo was pottery of B<sub>2</sub>, including Philistine pieces (pl. 28: 28-45). For the date of the transition from B<sub>2</sub> to B<sub>3</sub> see § 98.

81. The pottery of silo 43 includes some 18 characteristic sherds, of which some 5 are Philistine, and 1 is Cypro-Phoenician (of the Iron Age type). No. 28 is part of a Philistine crater with tilted horizontal loop-handles, and with traces of creamy gray wash. No. 29 belongs to a bowl of crater form, with reddish brown paint on a buff surface. No. 30 also comes from a bowl with plain buff surface. Nos. 31-3 are rims of jugs or pitchers; 31 and 33 are everted, while 32 is inverted. No. 34 is a Philistine tilted horizontal loop-handle, with red paint on buff surface. Nos. 35-6 are rims of wide-mouthed jugs; no. 36 has a pinched lip. Nos. 37-8 are cooking pot rims. No. 39 is the lower part of a jug of Philistine type, with a heavy, rounded



body and a small neck; the base is a concave disc. No. 40 is the ring-base of a Philistine crater, with remains of thick creamy gray wash. No. 41 is a spindle-whorl. No. 42 belongs to the wall of a jug with dark reddish brown bands on a buff surface. No. 43 is the same, with reddish brown on grayish buff. No. 44 is the much-worn neck and rim of a "Cypriote" (better Cypro-Phoenician) two-handled juglet with small vertical loop-handles, burnished, varnish-like, red slip (which may be called "varnish" for convenience), and decoration (bands and concentric rings) in lustrous black, like 51: 9; this type will be discussed below, § 95. No. 45 is part of a burnished black loop-handle of a typical EII juglet, like 51: 8. The date of the contents of this silo may safely be placed in the eleventh century, with a possible backward extension into the twelfth for certain pieces.

82. In SE 12 B and the immediately adjacent area to the west were found in the same level, below the top-level of B, a quantity of broken Philistine vases, specimens of which are shown on pl. 24: 37-52. All these pieces except no. 41 belong to Philistine craters, all with creamy gray or grayish buff wash and reddish brown paint. No. 41 belongs apparently to an elongated jug; for the criss-cross lozenge motive on a Philistine jug cf. G III, CLVIII: 15, etc. In the course of the excavation four other Philistine vases could be almost entirely reconstructed from fragments. The beer-jug shown on pl. 49: 2 (with the development of the frieze below the outline of the vase) came from the East Cave, and has reddish brown paint on a buff surface, without wash. Another beer-jug is illustrated on pl. 23: 1; it is covered with a cream wash, on which the decoration is painted in red and black. This vase was found in SE 12 B, like the fragments described above, all of which show the same technique; the sherds from which it was reconstructed were found on three different days, in different places. On pl. 49: 5 there is a reconstruction of a large crater (30 cm. in diameter of rim), sherds of which were found in the East Cave; the technique was also that of black and red paint on a creamy wash. The Maltese cross is just as common as the swan pluming its wing and the spiral on Philistine pottery. On pl. 50: 10 a somewhat smaller crater from silo 2 has been restored; the decoration, a simple trellis pattern, is in light reddish brown on a buff surface, with no wash. In connection with the fact that there are, as a rule, only two variant techniques which are employed in the decoration of Philistine pottery, it may be observed that the creamy wash is absolutely foreign to the Cypro-Phoenician pottery of EII in the north, as well as to the local LB ware of southern Palestine.

83. Silo 2 (pl. 28: 1-16), in which the vase last described was discovered, is the best example of a silo from B<sub>2</sub> (and B<sub>1</sub>?), next to silo 43, already

described above. No. 1 is a sherd from the wall of a large jug; the exterior is continuously hand-burnished, the strokes overlapping on a rich dark red slip. No. 2 comes from the rim of a thin-walled unprofiled saucer, and is hand-burnished on a red slip inside and outside. No. 3 comes from the outside of the rim of a bowl, ornamented outside with horizontal grooves, and semi-continuously hand-burnished inside and outside on a dark red slip. The technique of these three sherds is identical with that of numerous pieces from the second period at Gibeah, almost certainly the age of Saul, cir. 1020-1000 B. C., a fact which agrees remarkably well with our attribution of B<sub>2</sub> to the eleventh century B. C. (cf. *ANNUAL*, IV, 11 f.). No. 4, from the inside of a large bowl with earinated body, 1 cm. thick, has strokes of discontinuous hand-burnishing running in all directions, as in Gibeah II (*ANNUAL*, IV, pl. XXX, nos. 19-20, etc.). No. 8, the outside of a squat jug with buff surface, has a slightly better patterned hand-burnishing, with vertical strokes on the neck, horizontal or oblique on the body, and vertical on the under side. No. 5 is the broken trumpet-foot of a chalice, with buff surface, ornamented with matt dark red bands; for the type cf. the similar band decoration on chalices of EI I found at Tell el-Fârâh (CPP 17, E 4), erroneously ascribed by Petrie to the Nineteenth Dynasty, but actually coming from a pure EI I context (tomb 542, e. g., contains several Philistine bowls), as will be shown in a forthcoming paper by the writer in the *American Journal of Archaeology*. No. 6 comes from the side of a Philistine crater, with absolutely typical form and with matt red on buff; the wavy lines between straight ones still occur in EI I, though much more seldom than in LB. Nos. 7, 9, and 13 (13 is upside down) belong to small squat jugs, with tilted horizontal lug-handles, buff surface, and simple geometric ornamentation in red and white lines of paint (cf. 30: 13, 21, § 85). In form they are very similar to the LB II jugs illustrated pl. 19: 10 and 22: 2, with descriptions in §§ 65 and 68, but the decoration has ceased to bear any resemblance whatsoever to the Mycenaean prototypes. No. 10 is a sherd from the wall of a jug, with a band of purple paint (upside down). No. 12 is a bowl rim with a typical EI I bar-handle with nail-head (spatulate) ends; the surface is buff, irregularly hand-burnished. Nos. 14 and 16 are cooking pot rims. No. 15 is the broad flat rim of a characteristic EI I lamp. The sherds from silo 2, so far as they are characteristic, suggest a date in the late twelfth and eleventh centuries.

84. Silo 1 (pl. 28: 17-31), aside from the intrusive no. 22, from the rim of a ring-burnished bowl of A<sub>1</sub> (?), seems to belong also to B<sub>2</sub>. Nos. 17-20 are typical cooking pot rims. No. 21 is from the rim of a little bowl, of typical EI I form, buff in color; no. 23 comes from the side of another bowl. No. 24

belongs to a bowl, with buff surface, burnished on the inside by hand, in parallel horizontal strokes; at right angle to the rim two painted dark red lines run toward the center (typical EI I technique). No. 25 is a concave disc-base. Nos. 26-7 are disc-bases with clear wheel-marks. No. 28 is a tilted horizontal loop-handle from a Philistine crater with buff surface. Nos. 29-31 are typical handles, with smooth oval section; no. 29 comes from a jug, no. 30 from a small bowl (with cream slip on a buff surface, irregularly hand-burnished within and without, and with a broad sepia band inside the rim and traces of sepia ornament inside the bowl), and no. 31 from a large grayish buff bowl, like 23: 5-6.

85. Before passing to B<sub>3</sub> we may dispose of one silo which belongs mainly to B<sub>2-3</sub>, but was abandoned before the end of the period, and thus offers a different appearance on the whole from either B<sub>2</sub> or B<sub>3</sub> silos. The biggest and most important silo in stratum B is no. 6 (pl. 29: 13 and 30, most of whose contents I should be inclined to refer to the late eleventh and early tenth centuries, after the Philistine domination, traces of which survive in crater rims, etc. No painted Philistine fragments were found in this silo. On the other hand, certain sherds, like 30: 12, are decadent LB, and might best be referred to B<sub>1</sub>; such sherds evidently fell into the silo with the debris, and do not illustrate its chronology. Pl. 29: 13 could be reconstructed almost entirely from seven sherds. It has a wavy-profiled side, buff surface, hand-burnished in horizontal strokes, with reddish purple paint on rim and interior. There is probably a cruciform trellis ornament, each arm of which consists of three straight lines from rim to center, with two zigzags between. In the middle of the space between the arms is a stylized palm-tree. This common design has been called "palm and paneled zigzag" by Macalister (G II, 190 ff.; BPM, No. 4, pl. I: 4), who assigns it to his "Third and early Fourth Semitic," i. e., to the end of the LB and the entire EI I. Our bowl comes from rather late in this period, since it has the typical wavy profile of the latter part of B, and is elaborately burnished. Pl. 30: 1, from the outside of a vase, is burnished buff with red and black paint. Nos. 2, 4, 5 belong to the side of lentoid flasks, with concentric rings of paint in the middle of each side, from which four broad arms, filled with criss-cross trellis-work, project in cruciform fashion. This decoration is not common in the published material; I know of only two parallels, neither of which is perfect. Both of them have only three arms, instead of four, and differ in other respects. The closest is a lentoid flask from a typical EI I tomb at Gezer (tomb 59, G III, LXXXV: 4, which is assigned by CPP 85, H 16 to the Eighteenth Dynasty!); here we have concentric rings and arms, but no trellis-work. Next comes a vase with

three trellised arms from Tell Zakariyā (BM, pl. 52: 4), ascribed to the Jewish period (correctly?), and equated by Petric with pottery of the Twenty-sixth Dynasty (CPP 85, L 6), presumably on the basis of questionable parallels from Egypt. No. 2, from the middle of the side, has hand-burnished buff surface with dark red paint. No. 4, also from the middle of the side, has burnished creamy buff surface, with red paint. No. 5 is hand-burnished buff, with dark red paint. No. 3 comes from the wall of a jug or pitcher with hand-burnished cream slip, and painted bands in dark red. No. 6 is the rim of a small shallow bowl, buff, unburnished, with zigzag in dark red on the top of the rim. No. 7 (upside down) is the rim and neck of a jug, with vertically burnished creamy slip, and a red band covering the rim both outside and inside. No. 8 comes from the wall of a jug with vertically burnished creamy buff slip, on which are dark red bands. No. 9 comes from the wall of a jug with cream slip, unburnished, and with bands in red. No. 10 (on its side) belongs to the wall of a large vase, with hand-burnished buff surface, on which are bands of red and black, alternately. No. 11 belongs to the interior of a large shallow bowl, covered with reddish slip, hand-burnished both inside and outside, and with concentric rings of dark purplish red. No. 12 is the neck and rim of a small jug, with a metopic frieze of simple geometric pattern in red. No. 13 is a broken squat bowl, with tilted horizontal lug-handles, coarse buff ware and red bands; cf. no. 21 and 28: 9, etc., § 83. No. 14 is a sherd from the wall of a jug, with hand-burnished creamy slip, on which are dark purplish red bands. No. 15 belongs to a bowl like 29: 13. No. 16 belongs to a jug, with hand-burnished buff surface and red band. No. 17 is a sherd from the wall of a jug with plain buff surface and a broad red band. No. 18 comes from the inside of a shallow bowl, with hand-burnished cream slip, on which are dark red concentric rings. No. 19 comes from the inside of a bowl with wavy profile, like 29: 13; the surface is buff, without slip, and is burnished by hand, in horizontal sense inside the rim, and in vertical sense (i. e., at right angle to the rim) both outside and inside below the carinate projection. The rim is painted dark red, and there are concentric rings of the same color inside. No. 20 belongs to the outside wall of a jug with burnished cream slip, on which are painted bands varying from yellow through orange to brown. No. 21 is like no. 13 in type, with red decoration on creamy buff. No. 22, from the outside of a jug, has red bands on a reddish buff surface. No. 23 is a sherd from the outside of a large coarse object, 9-14 mm. thick, with punched ornament (?). No. 24, from the inside of a shallow bowl, has buff surface, wet-smoothed, not burnished, while the outside is roughly hand-burnished; the tree (?) ornament is in red. No. 25, from the interior of a shallow bowl,

is lightly burnished on a buff surface; the concentric rings are in dark red. No. 26 also comes from the inside of a shallow bowl, with wet-smoothed buff surface; the concentric bands are also in dark red. All the preceding decoration in bands and rings is very characteristic of the EI I all over Palestine; for the parallel material from Gibeah see ANNUAL, IV, 15 f., and pl. XXXI.

86. The unpainted sherds from silo 6 are illustrated on pl. 30: 27-53, which represent only selections, of course, from a much more extensive material. No. 27 is the handle of an amphora; it is oval in section, but with a trough-like depression running up the middle. No. 28 is a handle of a small two-handled bowl, covered with a cream slip, horizontally hand-burnished; inside, just below the rim, are dark red rings. No. 29 is part of the mouth of a jug with pinched lip, typically B in form. No. 30 belongs to a lamp of characteristic EI I form. No. 31 is a piece of the rim of a small bowl, with the pinched button-handle which is found so often in the latter part of EI I, and the beginning of EI II. No. 32 is the handle and rim of a small bowl, buff, with horizontal strokes of hand-burnishing inside. No. 33 is like 29, but smaller. Nos. 34-6 are sides of small bowls with the wavy (cyma) profile described above, on 29: 13; no. 34 is buff, and has been burnished horizontally by the hand-turning method (to be distinguished from wheel-turning) both inside and outside; no. 35 is similar, but is hand-burnished, while 36 is not burnished at all. No. 37 is a small ring-burnished bowl of the earliest type, burnished with broad, irregular wheel-strokes both inside and outside. For a discussion of the evolution of burnishing technique in this period see below, § 87. No. 38 is unburnished. Nos. 39-43, 45 are cooking pot rims and sides, all of the LB II-EI I type. No. 44 is a rim of the Philistine crater type, but later in date; it is buff inside, and has a hand-burnished cream slip on the rim and exterior, with a dark red band on the rim. No. 46 is part of the hollow disc-base of a jug, with hand-burnished creamy buff slip; another piece of the same vase appears as no. 49. No. 47 is a spindle-whorl. No. 48 is the bottom of a concave disc-base of a shallow bowl, roughly finished. No. 50 is the bottom of a jug with a concave disc-base approximating nearly the ring-base form, as in no. 46; the surface is creamy buff, without a slip. No. 51 is the bottom of a small bowl with disc-base, and with very pronounced wheel-marks. No. 52 is the bottom of a somewhat similar bowl with flat, slightly concave base, and buff surface. No. 53 is the bottom of a jug, with disc-base, buff surface, on which are vertical strokes of burnishing. This completes our catalogue of characteristic pieces from silo 6. As stated above, § 85, we may probably date our material in the main in the eleventh and early tenth centuries, especially from the latter, but a few sherds, such as 30: 37, can hardly

be older than the end of period B, i. e., about 950 B. C., or slightly later, since they resemble A<sub>1</sub> closely in type.

87. No silos were found which contained pottery of exclusively B<sub>2</sub> date, nor would one expect to find any, since the débris which fell into the silo after it was abandoned could hardly be so restricted in content. However, two room-groups which belong only to this phase were found in the 1930 campaign. Both are illustrated on pl. 27. The most important is the group containing nos. 1-33, from the cellar, SE 23B-8, which also contained a number of other interesting objects. Two complete vases are figured pl. 50: 7 and 51: 5 (§§ 92, 96). There can be no doubt, in view of the forms and technique illustrated here, that our group belongs to the second half of the tenth century. It may, however, be too rash to date every piece after 950 B. C. Nos. 1-2 are cooking pot rims of distinctly degenerate EI I type. No. 3 is the rim of a jug with flaring mouth, inside and outside of which are wide bands of dark reddish brown slip; the rest of the surface is plain. No. 4 is the wide, flat lip of a chalice. No. 5 is the collared rim of a pitcher. Nos. 6-7 are amphora handles; no. 6, which has incipient ribbing, belongs to a vessel covered with creamy wash, and no. 7, which has a smooth oval section, to a vessel with reddish buff surface. No. 8, also with incipient ribbing, belongs to a wide-mouthed jug. No. 9 is the rim of a similar jug. No. 10 is a cooking pot rim, later in type than 1-2, and approximating EI II forms, with which it cannot, however, be confused. Nos. 11-3 are jug-handles; no. 12 has incipient ribbing. It must be observed that this incipient ribbing is very different from the fully developed ribbing of EI II. No. 14 is the handle of an elongated juglet, a type which begins in EI I and continues to the end of EI II. No. 15 is a lamp of late EI I type. No. 16 is the bottom of a bowl with ring-base, covered inside and outside with a hand-burnished red slip. No. 17 is a slightly ribbed amphora handle (like no. 6). No. 18 is a strainer-spout from a large jug, also typical of EI I. Nos. 19-33 are the most important of this group, since they illustrate all types of burnishing which are to be expected in such a transitional period, at the end of EI I. All these sherds except nos. 22 and 30, which belong to jugs, come from bowls with red slip. This red slip is produced by smearing the surface of the sun-dried bowl with red ocher (haematite clay, containing iron peroxide) dissolved in water, which is partly dried and then burnished before baking. The irregular criss-cross burnishing by hand, characteristic of EI I, but already antiquated early in EI II, is illustrated by nos. 21, 26-7, 29, and 33 (all both inside and outside). It may be that most, if not all of these sherds are fragments of bowls with what may be termed chordal line-burnishing, i. e., wide bands of parallel burnished strokes.

with the center of each stroke, as a rule, at right angle to the radius of the bowl; for illustrations cf. no. 28, as well as the complete bowls from our period illustrated on pl. 51, nos. 13 (23: 4) and 17 (which is uncommonly regular). 51: 13, from the East Cave, is also covered with a red slip, and has two pinched button-handles, like 30: 31. 51: 17 had a burnished huff surface, with the wavy profile which is so common in stratum B. Continuous hand-hurnishing is illustrated by no. 25 (inside and outside). Nos. 31-2 are thin walled rims, horizontally hand-hurnished inside and outside (the technique characteristic of Gibeah about 1020-1000 B. C.—see above). Nos. 19-20, 23-4 all represent the transition from hand-burnishing to wheel-burnishing, and were probably all burnished while the bowl was being turned slowly by hand, i. e., hand-turned, a process which results in wavering, uncertain lines, coarser than wheel-made lines. All these early ring-hurnished vessels are hurnished both inside and outside; in EI II the practise of burnishing the exterior was rapidly abandoned, except on a few small howls, since the handles made wheel-burnishing impractical. For additional specimens of this technique, also from the end of period B, cf. pl. 24: 2, 14, 19-20, and 25: 20. Note the frequent coarseness of line, which contrasts so strikingly with the technique of period A (except at its very beginning).

88. Pl. 27: 34-50 is another homogeneous group from the end of period B. No. 34 is an amphora handle, with incipient ribbing, like no. 6. No. 35 is the handle of a jug, with smooth oval section. Nos. 36 and 44 are parts of cooking pots of the same transitional type as that found above, no. 10; the clay is that of EI II pots, while the form of its rim is like EI I and the depth of the pot probably agrees with EI II. We are evidently correct in assuming that a new type of deep cooking pot came in at this time and rapidly displaced the typical shallower LB II-EI I type. It may be added that a few degenerate cooking pots belonging to the earlier type have been found at Samaria, a fact which proves that the old cooking pot did not disappear entirely in the north until after 880 B. C. Our evidence proves that the new type began to come into use in southern Palestine before 920 B. C. No. 37 is the slightly pinched rim and neck of a jug. No. 38 belongs to a two-handled bowl with elaborate hand-burnishing inside and on rim. No. 39 belongs to a thin-walled bowl, unburnished, with a band of red slip just below the rim outside and inside. Nos. 40-43 belong to bowls with red slip; no. 40 is hand-hurnished inside and outside, nos. 41-2 are horizontally line-burnished (41 inside and on rim, 42 inside and outside) by hand-turning. No. 45 is the inside of the bottom of a bowl with ring-base, dark reddish brown slip, continuously hurnished in bands of parallel lines, drawn radially from rim to center; this is an interesting variation of the chordal pattern. Nos. 46-9 present variations on the

themes already described, all hand-burnished or burnished with hand-turning on a red slip. No. 60 is the rim of a small bowl, exhibiting a pronounced ribbing, and hand-burnished on a red slip. This group is absolutely parallel to the preceding one, and, like it, must be placed for the most part in the last generation of the history of period B, i. e., 950-920 B. C.

89. Silo 40 (pl. 31: 1-33) also belongs to the end of period B, but for some reason it was left open or was partially dug again in period A, so that many of its sherds belong undoubtedly to the developed A culture, perhaps in part as late as the eighth century. I have included it partly to illustrate the further development of ring-burnishing in period A. Since this silo is practically valueless for chronological purposes, we need not devote space to a detailed description. No. 3 is from period B. Of the red-burnished bowls, nos. 8-33, we have every type from pure hand-burnished, in criss-cross or irregular lines, such as no. 8, to pure ring-burnished, such as no. 30. The majority of the sherds belong probably to A<sub>1</sub>, since they are wheel-burnished for the most part, both inside and outside. The thick rims of nos. 12-3, 17, 20 are pure EI II in type, but the type of burnishing shows that they belong to A<sub>1</sub> rather than A<sub>2</sub>. No. 28, wheel-burnished inside and outside, has a button-handle, and probably belongs to the ninth century, i. e. to A<sub>1</sub>, though B<sub>2</sub> would perhaps be possible.

90. Two silos of uncertain date remain, nos. 8 (31: 34-6) and 7 (31: 37-48), both probably from the tenth century, i. e., B<sub>2</sub>, but containing too few sherds to permit certainty. Only three characteristic sherds were found in silo 8. No. 34 is a curious object of pottery, hollow inside. On one side it is red-burnished, on the other side covered with a cream slip, painted with cross-hatched pattern in black. No. 35 comes from the wall of a jug with light red surface, wet-smoothed in vertical sense; there are at least three groups of three painted bands each, the middle one being red and the outer two black. No. 36 is the upper part of a black burnished juglet, of typical EI I type, like 51: 2-3 (see § 94, below).

91. Silo 7 is somewhat better represented. Nos. 37-40 are rims of bowls; no. 37 belongs to a shallow bowl with dull red slip, no. 38 to a shallow bowl of the same finish with a wide flat rim, no. 39 is like 37, and no. 40 belongs to a shallow bowl of buff color, with inverted rim (but entirely unlike LB inverted rims). No. 41 is the handle of a small jug, with smooth oval section. No. 42 is the side of a small, but deep bowl. On the rim it is burnished by hand-turning, and outside it is hand-burnished, on a red slip. No. 43 is the neck of a one-handled juglet of Cypro-Phoenician type, like 51: 9; it is matt buff, with black bands, above the handle, and burnished below. No. 44 (upside down) comes from the wall of a jug, with buff surface and red bands.



No. 45 is part of a shallow bowl, with characteristic spatulate har-handle; the red slip is ring-hurnished, but in the early hand-turned technique. Nos. 46-7 are rims of small bowls with red slip; no. 46 is burnished by hand-turning, and no. 47 shows the early type of ring-hurnishing (both are hurnished inside and outside). No. 48, from the wall of a jug, has been hurnished with vertical strokes on a red slip.

92. After completing our examination of the Philistine pottery and the sherds from the silos and other homogeneous groups, let us study the remaining pottery from stratum B, represented on pl. 50: 3, 5-13; 51: 1-19; 23: 2-6; 24: 1-36; 25: 1-36. Let us consider the bowls first. The small bowl 50: 5, was found in mixed débris, but the B provenience is certain from the clear-cut type; the surface is buff and the painted decoration inside is red. The wavy profile found in this bowl and characteristic of fully developed EI I (see § 85) also occurs in the bowl found in débris, and supposed to belong to period C, from the somewhat unsatisfactory context, pl. 47: 7 (see § 50); the surface is brown, unhurnished. Another illustration of the wavy profile is the larger bowl 51: 17, with the chordal hurnishing which has already been described above, § 87. Smaller bowls are illustrated 51: 7, 14-6, 19; all are buff, and all are roughly made; the hasty and careless execution, particularly noticeable in the coarse wheel-marks on the disc-bases, is, in fact, almost the only criterium, aside from provenience, which distinguishes them from similar bowls of C. No. 19 may equally well belong to period C. Belonging to the same general class as the large, deep C bowls illustrated by 47: 13, but with a different shape of body and rim, etc., are the bowls nos. 633 (23: 5—50: 8), 645 (23: 6), and 1509 (50: 7). The last one comes from SE 23B-8, the same cellar where the group described in § 87 was found, and hence dates from the very end of period B, after 950 B. C. All have plain buff surface. Illustrations from other sites are fairly abundant, and all belong to the same period, EI I: cf. Gezer, G III, CLXXIV: 14 (Fourth Semitic); Beth-Shemesh, BSG 213: 382d (third stratum); *Gerar*, pl. LI, 27m (elevation 181, in the middle of the Philistine level). Bowl 23: 4 has already been described in § 87. 50: 13 is an interesting specimen. It was apparently hurnished by hand-turning before the slip was dry enough, so that a curious wash effect was produced. The handle (or handles) is of the horizontal rolled type. 50: 9, which was found intact in the room SE 22B-4, has a pipe-spout, opening sidewise; peculiar is the pinched lip, which conflates the side-spout opening with the jug-lip of the period. I do not know any parallel. The age is apparently B<sub>3</sub>, i. e., the tenth century.

93. Lamps of period B nearly always have a wide, flat rim and a rounded

bottom, being thus intermediate between C types with a narrow rim and A types with a wide, flat rim, but with a flat or disc-base. There are, however, some exceptions, such as the lamp with narrow rim figured 23: 2, just as lamps with wide rim sometimes appear late in period C. Illustrations of the wide rim with rounded bottom are given pl. 50: 6, 51: 1, 6. The most remarkable lamp of period B is, without doubt, the seven-wicked type, the rim of which was pinched seven times, as in the complete specimen 23: 3 (two or three other broken examples were found in stratum B). This type of lamp is common in Palestine, but occurs exclusively in EI I, so far as our present material indicates, for its biblical significance see APB 162. The clearest parallels chronologically are from Gerar, where Petrie found three specimens (*Gerar*, LXI, 91g), all at elevations 183-6, i. e., immediately below and above the destruction of the Solomonic period (§ 98), and thus all from about the tenth century (B<sub>2</sub>). For Gezer see G III, CLXXV: I (Fourth Semitic, i. e., EI I). At Beth-shemesh Grant has recently found several seven-wicked lamps, all in stratum III (EI I), which will be reproduced in his forthcoming publication. One was found at Tell Sandahannah, date not given (BM, pl. 66: 7). These lamps also occur in the north, where I have found sherds belonging to them on the surface of at least one site in Galilee, and where one specimen mounted on a low pedestal was discovered at Taanach, TTN 24, fig. 31 (found together with a Cypro-Phoenician juglet with buff surface and black concentric circles, i. e., EI I, just as at our site), while two others were found at Megiddo (M II, 82) in the great burned level of the tenth century B. C. (so correctly Watzinger, *ibid.*, 56 fl.). It may, therefore, be seen that all the datable specimens of the seven-wicked lamp so far found in Palestine date from about the tenth century B. C. or slightly earlier.

94. Aside from the incomplete amphora, 50: 11, all the other complete vases from stratum B belong to various juglet categories. 51: 2-3 are typical black burnished juglets of EI I, with more graceful bodies and longer necks than the ubiquitous black burnished juglets of EI II (see pl. 68 above), and with handles which join the neck some distance below the rim—the most striking distinction between the juglets of the two periods. The type is so common that we shall content ourselves with a reference to such characteristic tomb-groups as Gezer: nos. 84-5, from the 12th century (G III, LXXXVII: 5, 9) 59, about the same age or a little younger (G III, LXXXIV: 10), 142, about the tenth century (G III, CIII: 11), etc., Beth-shemesh, tomb 1 (APEF II, pl. XXIV, nos. 12-18), Tell en-Nasbe, north cemetery, tomb 5 (TN 2, 51, nos. 1-6), which belongs to about the tenth or early ninth century (cf. JAOS 52, 53). The same form appears in the

dark gray juglet, 51: 8. A different form appears in the elongated one-handled juglets 51: 11-12, which differ from the ubiquitous elongated juglets of EI II only, it would seem, in their pinched lip; no. 11 has vertical line burnishing, as in the approximately contemporary specimen found in the late Ramesside level at Beth-shan (BSF, LI: 18-9). Vertical burnishing on juglets of this type lasted down to the sixth century, as we shall see. The broken juglet 51: 10 is covered with a red slip, vertically burnished on the neck, and horizontally burnished in short strokes below the neck.

95. The imported Cypro-Phoenician perfume juglet, 51: 9, is decorated in black paint on a continuously burnished light red slip; a band of paint also runs lengthwise of the handle. This juglet was found in the room SE 22B-4, and is the only complete one found, though there were a number of similar fragments; cf. 31: 43, 26: 44. This juglet always occurs in EI I and early EI II deposits in Palestine, and does not descend to a later date than the ninth century, when it was replaced by the type illustrated pl. 66: 17-20, which nearly always has two handles instead of one, and can never be confused with our imported EI I type. The specimens from Gerar (pl. LX, 82) all came from elevations 183-6, i. e., the tenth century (§ 98), while those from Tell el-Fâr'ah are all assigned by Petrie to the Twentieth and Twenty-second Dynasties (CPP 82), i. e., with certain necessary modifications in his chronology, to the eleventh-ninth centuries. At Beth-shan one was found in the Ramesside level (BSF, XLVII: 27), which extends here down to about 1000 B. C.; Fitzgerald's observation on p. 12 (top of page) now becomes unnecessary, since it is absolutely certain that Myres' date for Cyprian specimens of the same category, cir. 700-500 B. C., is several centuries too low. The vase of this class pictured by Schumacher (M I, pl. XL: c), and assigned by him erroneously to his "sixth stratum" is, therefore, correctly assigned by Watzinger (M II, 79 f.) to the period before the destruction of the palace, but the date cir. 733 B. C. (*ibid.*, p. 91) is probably too low, since the vase in question should belong to the tenth-ninth century.

96. The squat juglets with two tilted lug-handles 51: 4-5 (with which compare the handle 25: 5), both black burnished over the entire surface, are ultimately related in form to the class described above, §§ 83, 85, but form an independent group. For parallel forms, color not described, cf. CPP, 55 Q 2-3, both from Tell el-Fâr'ah, and assigned by Petrie to the Twenty-first and Twenty-second Dynasties (tenth-ninth centuries). Our no. 5 comes from room SE 23B-8, and therefore dates after 950 B. C. (cf. § 87).

97. The sherds represented on pl. 24: 1-36 and 25 come from stratum B, but cannot be assigned to any special phase of it on the basis of stratifi-

cation. Since all the types represented, with but few exceptions, have been discussed above, we need not go into detail. Spatulate bar-handles are illustrated on pl. 25, nos. 1, 7, 16, all on rims of bowls. It may be added that this type of handle, which survived in central Palestine, at least, into the ninth century, as we know from Samaria (S I, 280, nos. 14a, 20a), was also at home in Syria and Mesopotamia, where I have found it in an EI context at Tell es-Súwar on the Habûr. The button-handle appears 25: 11, and the pinched button-handle 25: 17, 36. In 24: 7-8 we have illustrations of rows of buttons below the exterior of the rim of a bowl (with a burnished red slip); for somewhat similar protuberances cf. the plates of Macalister's Fourth Semitic at Gezer. Tilted horizontal loop-handles, some of them rather vestigial, appear in 25: 3, 12, 14, 21, 25; no. 6 is a curious hybrid between our type and the bar-handle. 25: 15 is a jug-handle, with a characteristic EI I decoration in brownish red on buff. Chalices of EI I form are to be seen in 24: 25, 25: 2 (upside down), as well as in smaller size, 24: 23. 25: 5 has been described in § 96. Painted craters and bowls of various types are 25: 4 (crater with buff surface, burnished cream slip, reddish brown paint, red band inside rim), 8 (hand-burnished buff surface, with reddish brown lines on rim and sides), 19 (small Philistine crater with typical handle, buff surface with light brownish red trellis design), 22 (broad rim, carinated body, burnished buff surface, brownish red paint on rim and side); 24: 15 (brownish red on buff—for the design, which resembles LB work somewhat, cf. the Cyprian bowl figured by Robinson, *Greek Vases at Toronto*, I, 78, no. 232, and dated by him cir. 900-700, i. e., with the necessary correction, cir. 1100-900 B. C.), 21, 26, 33 (various shades of red on buff). Bowls like 29: 13, 30: 15 are illustrated by 25: 26, 31, 24: 30. For various types of burnishing on red-slip bowls cf. 25: 32-6, 20; 24: 2, 14, 19-20. 25: 32 is horizontally hand-burnished inside only; no. 33 is continuously hand-burnished inside and outside; no. 34 is like 32, but is also burnished outside; no. 35 is a thin walled bowl, horizontally hand-burnished inside and outside; no. 36 is like 32 in burnishing and like 35 in form, with a pinched knob (or button) handle. Jugs with red slip and vertical line-burnishing are 25: 9, 24; 24: 34. Typical painted lentoid flasks are 25: 30, 24: 31-2. Strainer-spouts, which are most abundant in EI I, appear in 25: 27 and 24: 24. Part of a lamp appears 25: 18. Cooking pot handles and rims are found in 24: 3, 6, 9-10. 25: 10 is the neck of a pitcher with the handle ending half-way up, a flaring mouth (for the shape cf. the EI I pitcher BSF, pl. LI: 4), and with bands of sepia and light reddish brown on creamy buff slip. This technique is very common in EI I. An unusual painted decoration, in light red on burnished buff, will

be found pl. 40: 1, representing a dragon of the Babylonian *mušhuššu* type (cf. the discussion APB 112): the date is probably B<sub>3</sub>, the tenth century.

98. There is no need of recapitulating here the evidence already presented elsewhere (ZAW 1929, 13 f.; JPOS 1931, 123 f.; APB 106 f.) for dating the fall of Tell Beit Mirsim B at the time of Sbishak's invasion, cir. 922 B. C. (for the date cf. § 74). The sherd containing the archaic *kaf* and the slanting shaft of a following letter, which was found in the 1930 campaign, is illus-

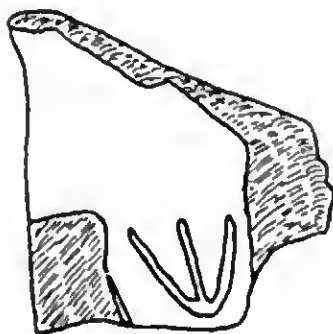


Fig. 11

trated in fig. 11. While the sherd in question was discovered in an uncertain context of stratum B, it is most likely that it belongs to B<sub>3</sub>, which cannot, then, date after the tenth century. We have hitherto assumed that B<sub>3</sub> began about 1000 B. C., or shortly afterward, and probably not before Gibeah II (the fortress of Saul). Happily, we have a more definite datum for the time of the cessation of the import (and manufacture?) of Philistine pottery, which we have set as the upper limit of B<sub>3</sub>. In Petrie's excavations at Tell Djemmeh, the site of Gerar, painted Philistine sherds were found in abundance between elevations 176 and 183, where they stop (see above, § 73); see *Gerar*, pl. V, LXIV. A foot or two higher come the floor levels of a town which was destroyed by a terrific conflagration, ranging between 184 and 185 (*Gerar*, p. 6, pl. V). Petrie assigns this burning to the period of the Philistine conquest, in accordance with his consistently too high chronology of the earlier levels in this site (see above, *passim*, and Galling, ZDPV 1929, 242-50). The next occupation above the burned level is, however, correctly attributed by Petrie to about the time of Sbishak and later (*Gerar*, p. 4a). Since, as we have had occasion to note above, the same pottery often appears in both levels, we cannot admit a lacuna of over two centuries in the occupation, and there is no reason to suppose that there was any appreciable gap at all. We can, moreover, place the destruction by fire in the early part of Solomon's

reign, about 950 B. C., with considerable probability. In 1924 I tried to show that Gezer cannot possibly have been destroyed by an Egyptian king in the time of Solomon, and suggested that Gerar was meant instead (see JPOS, IV, 142-4). I then wrote: "If the excavations at Tell Jemmeh reveal a burned layer belonging to about 1000 B. C. or a little later, we shall have the indispensable archaeological confirmation of our theory." Three years later Petrie discovered just this burned layer. It follows that, if we are correct, the floor-levels situated above the débris containing Philistine pottery belong to the houses which were destroyed by an Egyptian invader about 950 B. C. The end of the period to which the Philistine sherds belong must then be placed earlier—just how much we cannot say, though one may safely place it a generation or two earlier.

## CHAPTER VI

### STRATUM A (EARLY IRON II)

99. Stratum A was naturally not so greatly disturbed as the older strata, with the exception of D, since the site was never again occupied after the fall of city A. Nearly all our complete vases belong, therefore, to A, especially since no tomb-groups from earlier periods were discovered. In view of the great mass of material, we have refrained from reproducing photographs of pots and sherds. Our drawings are selected, and the photographs aim only to illustrate the different types by good examples. Nearly all the complete and reconstructed vases belong to the last generation or two of the history of the site. Where older material is included, attention will duly be called to its relative date. Our collection is by far the most complete and most homogeneous that has been published up to now, and gives for the first time a clear and complete picture of the pottery in a South Palestinian town of the eighth and seventh centuries B. C. It will be found that nearly all of this pottery belongs to types ascribed by Macalister in his latest publications to the Persian and Hellenistic periods, i. e., after the destruction of the Hebrew monarchy, cir. 580 B. C. On the other hand, in the exploration of the mounds of the Shephelah Bliss and Macalister assigned our group of pottery to the Jewish monarchy, quite correctly. Watzinger and Sellin also dated the Jewish pottery of Jericho to the seventh and sixth centuries, though it is true that they depressed the age of certain types, which properly belong to B<sub>3</sub> or A<sub>1</sub>, i. e., before, not after the eighth century. Since the publication of *Jericho*, Watzinger has corrected his chronology, as may be seen especially from *Tell el-Mutesellim*, vol. II. All other archaeologists, including Fisher, Vincent, Petrie, and the younger group, Gny, Sukenik, Badè, Grant, etc., give the same dates in general as we do to the pottery of Early Iron II (sometimes called "Middle Iron"). As a matter of fact, Macalister's shift to lower dating for this pottery is easy to explain. At Gezer there is an almost complete lacuna after the tenth century; the "Fourth Semitic" of Macalister does not contain a single clear specimen of EI II pottery, though there is an abundance of typical EI I material, as we have already seen. A number of such types are, however, classed under the head of "Persian" or "Hellenistic." In an article in *PEFQS*, 1915, 35-7, with four plates, Macalister discussed a group of typical EI II vases from tombs at Tell el-Fûl (Gibeah) in the Clark collection, and assigned dates in the Persian and Hellenistic period to most of them. The lacuna in question is also illustrated by the stamped handles and inscriptions of Gezer, few

of which belong to the pre-exilic age. There were only a few stamped jar handles of the royal fiscus (see below, § 101), and only one other which was certainly of the pre-exilic period. The two pentagram stamps belong to Šelemyau, treasurer of the Temple in the late fifth century (APB 174). The only other Hebrew inscription of pre-Hellenistic age is the famous Calendar, which is now known to date from the tenth century (early ninth at the latest). In fact, there is no reason to believe that Gezer was an occupied town between cir. 900 and cir. 500 B. C.; the two Assyrian contract tablets,

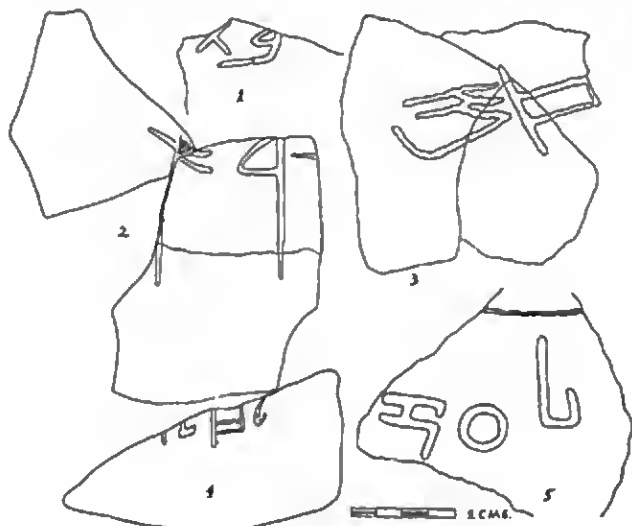


Fig. 12

dated cir. 649-8 B. C., only prove that Assyrian colonists had become land-owners in the neighborhood of Gezer, where they presumably built houses.

100. The second reason for Macalister's shift in his chronology of EI is that he was evidently worried by the apparent absence of a clearly demarked Persian period between the Jewish Monarchy and the Hellenistic age, in the Bliss-Macalister system. Our excavations at Beth-zur in 1931 (cf. Sellers and Albright, *Bulletin*, No. 43, 2-13) proved that the Persian period was ceramically only an earlier stage of the local Hellenistic, and showed that there was a sharp division in pottery between EI II and III. Our conclusions were confirmed by the discovery of a number of coins and seals belonging to the Persian period (several antedating 430 B. C.). In the following pages we shall have occasion to mention some of our results, and to compare them with Macalister's last conclusions.

101. Our ceramic chronology is illustrated by the inscriptional material



from stratum A. This consists of four jar-handles bearing the well-known stamp-inscription, לְמֶלֶךְ הַבֵּרֶן, "Belonging to the king, Hebron" (pl. 40: 3-4); two handles with the impression of the seal of "Eliakim, steward of Joiachin" (לְאֵלִיָּקִים נָעַר יוֹיָכִן), pl. 40: 5 and fig. 13); five incised words and names, cut on pots before they were broken, and not true ostraca, all but one unfortunately incomplete (fig. 12). Following are the latter: 1. בַּת, "bath," a liquid measure (APB 123 f.); 2. גֵּרָא, "[belonging to Ge]ra"; 3. מְנַחֵם, "[belonging to Na]hum" (or Menahem); 4. הֶזְקִיָּה, "belonging to Hezek[iah]"; 5. זְזִי, "belonging to Uzzi[ah]" (or Uzza, etc.). Aside from no. 1, which is colorless, and no. 5, which was found in a cistern, and may be somewhat older, all belong clearly to the close of the Jewish

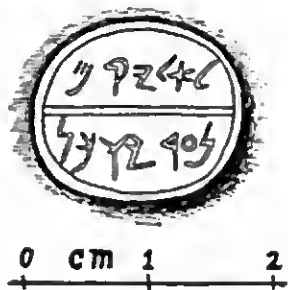


Fig. 13

## SEAL OF ELIAKIM

(traced from enlarged photograph, with comparison of original)

monarchy, and can hardly be dated before cir. 700 B. C. None of them can be dated after the Exile. This is not the place to discuss the chronology and meaning of the royal stamps, for which I may refer to the extended discussions JPOS V, 45 ff. (cf. also APB 124 f.); suffice it to say that they belong to the eighth and seventh centuries B. C., and that the "winged scroll" type (40: 4) is later than the four-winged scarabaeus (40: 3). The seal of Eliakim, now known in three examples, the third coming from Beth-shemesh, belongs, I believe, to the interval between the exile of Joiachin (598 B. C.) and the final débâcle (cir. 588 B. C. in the Negeb); see my paper "The Seal of Eliakim and the Latest Preëxilic History of Judah, etc." (JBL LI, 1932, 77-106). In any case, it establishes conclusively the fact that Tell Beit Mirsim was not destroyed until after 598 B. C.

102. In our 1930 campaign we made the first steps toward a clear differentiation between A<sub>1</sub> and A<sub>2</sub> pottery. Since we hope to reach much more exact conclusions in this respect during our fourth campaign, it seems premature to go into much detail. It is enough here to say that A<sub>1</sub> resembles B<sub>2</sub>

closely in many respects, so that we were sometimes in doubt, when no clear and continuous conflagration level was available, as to whether a given homogeneous group of sherds belonged to  $B_2$  or to  $A_1$ . The most striking difference between  $A_1$  and  $A_2$  is that ring-burnished bowls with red slip were usually burnished both inside and outside in the former period, and never burnished outside in the latter, except in the case of a few small bowls of the saucer type. The date of the shift remains uncertain, since the material from Samaria is not exactly dated, and there is great uncertainty with regard to the precise chronology of the "Amaziah" stratum at Gerar (which probably begins about 700 B. C.). It is, however, certain that the shift was completed before the middle of the eighth century, and probable that it took place during the course of the ninth century.

103. Turning to pl. 52 (with photographs of selected pieces on pl. 33), we first encounter the so-called "hole-mouth" jars, cylindrical jars with a rounded base and a broad flat rim (nos. 1-9). The rim is sometimes ribbed, sometimes not. Authorities have differed radically with regard to the date of these cylindrical jars. Macalister [G II, 196 (a), 198, fig. 352, 213 (e); III, pl. CLXXVIII: 6] gives examples, all of which he attributes erroneously to the Persian and Hellenistic periods. As we have seen, they were no longer in use during either of these periods, at least after the fifth century. In our period we have both rounded and pointed bottoms, both plain and ribbed rims. The same is true of the corresponding period at Beth-zur. The best parallels for chronological purposes are the identical hole-mouth jars from Gerar (pl. LII, 31), where they occur often between elevations 189 and 193, i. e., in the ninth-seventh centuries, while two specimens are assigned to deeper levels (back to 183, tenth century) and one occurs at a high level (198, sixth century). Yet Gerar was occupied in the Persian period. Megiddo, which was also occupied during the Persian age, offers excellent examples from about the eighth century (fifth stratum of Schumacher, M I, 121, fig. 181; cf. Watzinger, M II, 78): the height, which varies between 30 and 35 cm., is the same as that of ours. Numerous examples have been found in the pre-exilic levels of other sites, but none are of such importance for chronological purposes.

104. Pl. 52: 10-11, 14, and 53: 2, 4-6 (for photograph of a selected piece see 32: 4) illustrate three types of water-jars or oil-jars, two with four handles, three with two handles and a pointed bottom, two with two handles and somewhat more rounded bottom. All are common types in EI II all over Palestine. For the four-handled ones cf. the jars (CPP 43, Q 2) from Tell el-Fâr'ah, which Petrie dates about the eighth-seventh centuries; both

form and date are identical, though the one represented has a slightly differing rim. Our pointed two-handled amphoras are absolutely identical in type with CPP 46, P 1-2 from Gerar and Tell el-Fār'ah, found in numerous examples between elevations 190 and 194 (9 examples, with a single one at elevation 200), i. e., in the ninth-seventh centuries. The best parallels to the amphoras with more rounded bottoms are from EI II at Jericho (J 136, A 4-5).

105. Rounded handleless jugs, probably for storing grain, are represented in pl. 32: 1-3 (1-2 = 52: 12-13). There are no parallels in the archaeological publications, though this again is quite accidental, since the type was fairly common.

106. The large jars with ring-base, three handles, and a vertical spout (pl. 53: 1, 3; photographs of complete vessel, the upper part of another, and the spout of a third, pl. 34: 3, 1, 2) are well known from publications; cf. Tell el-Hesī (THP IX: 190), the Sbepebelah (BM, pl. 49: 3), Beth-shemesh (BSG 205, no. 202), Jericho (J 137, fig. 144), etc. The hole through the spout into the interior of the jar is sometimes closed, but generally open, and must have served originally to restrict the amount of oil which was poured out. That the liquid contained in it was generally oil is evident, since no other liquid would be required in such minute quantities as presupposed by these jars. Smaller vessels of the same type were also employed; see pl. 54: 1-3 and the photograph, 34: 4-5. The smallest of the three has only a vestigial spout; the other two have pierced spouts. Note also in this connection the curious four-handled jug, pl. 54: 4, for which I have no parallel.

107. In this connection it may be observed that all the handles of large jars in EI II are ribbed, nearly always with two ribs running lengthwise of the handle, as in the stamped handles pl. 40: 3-5. This type of ribbing is found in all parts of southern and central Palestine in EI II, and cannot be confused with the entirely distinct ribbing of EI III (Persian-Hellenistic period), which generally has only one marked rib, and is always more carelessly executed. All the royal stamped jar-handles and related types are of this class; the seals of the Temple treasury in the postexilic age are invariably stamped on EI III handles. While we do not know exactly when ribbing came into use on handles of large vases, we saw (§ 87) that incipient ribbing begins to appear in B<sub>1</sub>, the tenth century B. C. The ribbing of A<sub>1</sub> handles is nearly the same, though more pronounced, as a rule. It is probable that the two-ribbed handles of our type were introduced into southern Palestine about 800 B. C.—in any case between 850 and 750 B. C.

108. We now come to an interesting class of small amphoras with knob or

button-base, often covered with a red or brown slip, and sometimes decorated with painted bands, which are otherwise almost completely lacking in the pottery of EI II. On pl. 53: 7-12 and 54: 5-10 are illustrated ten of them, together with two tiny imitations (53: 8, 11); for selected photographs see 36: 6-10. 53: 7 has a reddish buff slip, no burnishing. 53: 9 has red slip, without burnishing. 53: 10 has a brown slip, with vertical line-burnishing. 53: 12 has a dark gray slip, with ring-burnished neck, vertically burnished body, and three bands of paint, too faded to enable one to tell the original colors. 54: 5 has a dark gray slip, with vertical line-burnishing above the base of the handles and ring-burnishing below. 54: 6 has a reddish buff surface. 54: 7 has a burnished red slip. 54: 8 has a plain buff surface, while nos. 9 and 10 are reddish buff. In length they range up to 26 cm. This class is undoubtedly descended from the type (also found in Cyprus) CPP 55, W 4-7, which belongs to the thirteenth and twelfth centuries, continuing in use down into the middle of EI I. CPP 55, X, from an EI I tomb of about the tenth century at Gezer, represents an early form of our type. Complete vases seem to be rare in EI II sites hitherto excavated, though the type is well-known from sherds.

109. Cooking pots from EI II are represented on pl. 55 and 56 (except nos. 15-17), with photographs on pl. 35: 1-6, 8-11. All belong to A<sub>2</sub>, and nearly all to the very end of the period, after the end of the seventh century, since cooking pots doubtless suffered a higher mortality than any other class of pottery. The pots are all of the deep type characteristic of EI II-III, except 55: 2, 4, 5, 9, and 56: 1-3, 9-11. All are made of the same clay, coarser than that used in some other ware of the period, but much finer than that of the cooking pots of EI I, discussed above, and comparable to the clay employed in EI III-Hellenistic cooking pots. The rims are nearly always elaborately profiled or rilled, but their section is absolutely different from the typical section of EI I cooking pots, for which see the numerous characteristic specimens reproduced ANNUAL, IV, 81 (pl. XXV). Clay and section of rim are also quite distinct from the cooking pots of the transition, 950-850 B. C., found in B<sub>1</sub> and A<sub>1</sub> deposits. Cooking pots of EI II found in our site often have a cross (*tau*) incised on one of the handles; cf. 55: 3, 6, 10. This incised *tau* is found in approximately one-fourth of the cooking pots, either entire or in sherds, and perhaps was the factory mark of a town which manufactured them. Another, much rarer, potter's mark occurs on 56: 3 (cf. § 121). The handles of cooking pots in our period are both ribbed and unribbed, the latter probably being in the majority. As has already been implied, it is difficult to distinguish EI II and EI III cooking pots, except

by the thickness of rims and handles, which is a somewhat variable criterium. In the Hellenistic period (third century on), these pots become thinner walled, and exhibit increased ribbing, until in the Hellenistic-Roman period (after the middle of the second century B. C.) the characteristic thin rippled walls of Roman cooking pots make their appearance (the chronology is based on the evidence of Beth-zur and Samaria).

110. At the bottom of pl. 56, nos. 15-17 (for photograph of no. 16 see pl. 35: 7), are three two-handed jugs, with flat or disc-base, which resemble cooking pots in their upper part, but are different below, and are also made of different clay. The color of the surface is buff or reddish buff; handles are either ribbed or have a smooth oval section. *Jericho*, pl. 31, A, 7a, is not quite the same, since the handles join the neck half-way to the rim.

111. One-handed jugs and pitchers, generally with wide mouths, were never so common in the history of Palestine as in EI II. Leaving the elongated and squat juglets as well as abnormal forms for later treatment, let us examine the material on pl. 57-9, which represents about two-thirds of what we collected during the three campaigns. Photographs will be found on pl. 37-6. Except for the ring-burnished water-decanter on pl. 59, all of these jugs have a plain surface, which varies from a light buff to chocolate brown in color, the great majority, of course, being buff. Mouths are round or pinched, the latter being a survival from EI I which only appears on large vessels, such as 58: 4-6, where its utility is evident. Handles are both ribbed and smooth oval in section, quite indifferently, except in the case of the ring-burnished water-decanter, which always has a thin, ribbed handle, with a hollow in the middle of the exterior side. Jugs have round, flat, disc, and ring bases. The most characteristic single type is the ring-burnished water-decanter, pl 59: 1-6. This vase, which is ubiquitous in strata and tombs from EI II, has suffered a strange fate in the archaeological literature, owing principally to the fact that it is not described by Macalister, whose site had virtually no EI II, as we have already pointed out. Great numbers of these water-decanter were found by Mackenzie at Betb-shemesh (APEF, II, *passim*, esp. p. 66 ff.). The latter correctly dated them, and also pointed out that this type made its appearance after the date of tomb I, which is approximately tenth century. I discussed it in *ANNUAL*, IV, 24 f., pointing out that Macalister's Hellenistic dating of specimens found in tombs near Gibeah was much too low, and urging a date between 900 and 600, with an apparent extension "through the Persian period," the last being an unnecessary concession, as we shall see. The water-decanter in question is found all over central and southern Palestine, and is common at Jericho, Tell en-Nasbeh, and many other sites. Our north-

ern material is defective at present, owing to the paucity of relevant publications. The elevations given by Petrie, *Gerar*, pl. LVIII, 65 c, for the water-decanter, 189-193, belong to the ninth-seventh centuries, with no later trace of it. Our work at Beth-zur in 1931 showed that this water-decanter did not survive into the Persian period—except possibly in the first few decades of it, though even this downward extension is unlikely.

112. Small one-handled jugs, both wide-necked and narrow-necked, are illustrated on pl. 66, 68-9, with photographs on pl. 37-9. Since these jugs and juglets belong to a number of clearly marked categories, we shall start with the most important. This is undoubtedly the elongated one-handled juglet of the class illustrated pl. 68: 33-47, 69: 19-30, with selected photographs in the first two registers, pl. 39. Our reproductions only include a small selection from our vast material, yet it may be reasonably objected that we have erred on the side of generosity. More than half of these juglets are vertically burnished, virtually always on the plain buff or brown surface of the vase, slip being very rare. In our drawings we have indicated the vertical line-burnishing schematically, without giving the full length of the burnishing strokes, in most cases. The body is sometimes more rounded than is usually the case. In EI II juglets of this class, we never have pinched spouts, which are restricted exclusively to EI I juglets, though a survival into the ninth century is entirely possible. Such juglets were undoubtedly used to contain cheap perfumed oil.

113. Second in abundance comes easily the class of squat black perfume-juglets, generally more or less continuously burnished. Juglets of this shape sometimes exhibit buff or brown color, both burnished and plain in surface; there is no distinction in form or date between the black and the lighter colored juglets of this type. Since virtually all our juglets of the category in question are black-burnished, there did not seem to be any reason for indicating color or burnishing in our drawings, pl. 68: 1-32, which form only a fraction of the specimens discovered. Nearly all have rounded base; disc-bases, as in nos. 13-4, belong to a different type (no. 13 has a burnished red slip) entirely. Our type is the direct continuation of the EI I type with the handle joining the neck some distance below the rim; see § 94, above. For a discussion see Mackenzie, *APEF* II, 67, where he shows that this type continued in use down to the period of the repository of tomb 2 (after the eighth century!), but became excessively rare thereafter. It may well be that the black-polished juglet became relatively much rarer toward the end of EI II, perhaps because of the increasing abundance of the elongated one-handled juglet, which was used for practically the same purpose, but our evidence from

Tell Beit Mirsim proves conclusively that it was still in use as late as the end of the seventh century. Petrie's work at Gerar again provides most instructive data. The material grouped in *Gerar*, pl. LIX, 73, shows that the black-burnished juglet of EI I type, with handle joining neck some distance below the rim, extends from elevation 183 to about 188, where the EI II type takes its place, extending to about 193, or in round numbers, from cir. 900 to the seventh century, in absolute agreement with our Tell Beit Mirsim evidence.

114. A number of miscellaneous jugs and pitchers, all of very small size, may be described in this section. Pl. 66: 21-3, 26 are so obviously miniature replicas of the large jugs on pl. 58 that no comment is necessary. 66: 24, with a pinched lip, and a brownish red slip, may be out of its context, though it was found in the room SE 4A-2, with numerous typical EI II vases. The knob at the base of the handle is particularly suggestive of EI I. However, I know of no precise parallel, so it may belong in its context. 66: 25 has a dark gray surface and vertical line-burnishing; it was also found in a clear EI II context, which supports the claim of no. 24 to A provenience. 66: 27 looks like a toy imitation of the water-decanter of pl. 59. Pl. 69: 1-3, 5 are smaller versions of the juga of pl. 57. 69: 4 belongs with 66: 21-3. 69: 6-18 are related to the elongated juglets which follow, and many of them have the same vertical line-burnishing; their form is often affected by that of the black-burnished juglets, though they are larger, and have relatively thinner walls. Pl. 67: 34, with a reddish buff surface, belongs with 68: 23, which has been grouped for convenience among the black-burnished juglets.

115. The small handleless jugs with flaring mouth, pl. 66: 11, 13-5, with related forms 66: 12, 16, form another type peculiar to A, though rare. I lack comparative material of chronological value, and will not discuss it further at present.

116. The only painted pottery of period A, outside of occasional specimens of the type described in § 108, is the miniature amphora of the type illustrated by drawings, fig. 14 and pl. 66: 17-20, with selected photographs pl. 39: 13-18. No. 139 (fig. 14, no. 16) is plain buff; 99 (no. 17) is burnished buff, with red bands; 416 (no. 18) is buff, with semi-continuous ring-burnishing and red bands; the next (no. 19) is burnished buff with horizontal red lines in pairs; 17 (no. 20) is plain buff again. There is, however, reason to believe that the plain buff surface in two specimens was once decorated by bands, since traces remain in the last mentioned. Pl. 66: 17 is sepia (originally black) on a creamy gray slip. The next is plain buff. No. 19 is buff with red bands. No. 20 is buff with a broad band of orange red and two narrow bands of black. All bases are either flat or disc; the handles are

nearly all vertical lug-handles. Our type is the EI II analogue of the Cypro-Phoenician ointment juglet of EI I described above, § 95, though of different origin (i. e., not developed directly from it). For some obscure reason CPP distributes our type among four categories, 71-2, 83-4 (!). Specimens are not uncommon; we shall restrict ourselves to the excellent chronological data provided by Petrie's excavations at Gerar. The great mass of his material belonging to this type occurs between elevations 188-194, though sporadic examples seem to occur as low as 185 and as high as 197. Chronologically expressed, this means that the type first came into use in Gerar about the second half of the tenth century, but did not become abundant until the ninth century; it ceased to be common about the end of the seventh century, and

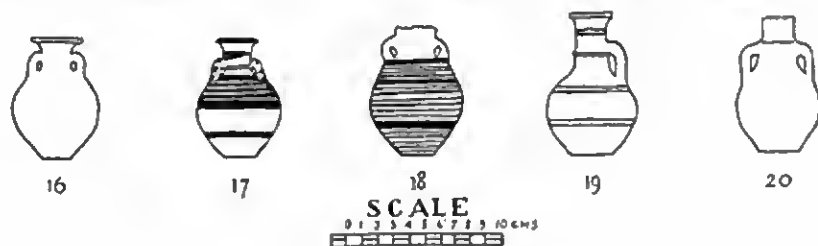


Fig. 14

disappeared in the sixth. The agreement with our data is just as striking as has been the case with respect to all other classes of ceramic which we have compared.

117. We now come to the great class of ring-burnished bowls, plates and saucers, both with and without handles; see the selection from our material on pl. 60-67. Since I plan to devote a special monograph, for which we do not have sufficient space in this volume, to this vast and intricate subject, we must content ourselves with a summary description of the outstanding divisions of the classes involved. The origin of this technique has been treated ANNUAL, IV, 22, as well as above, § 89, etc.; for photographs illustrating the ring-burnishing see pl. 31 and 34: 12 (no. 50). On our drawings we have contented ourselves with horizontal lines drawn by hand in the right-hand half of each drawing of a ring-burnished bowl. Of course, the term "ring-burnishing" is only a convenient approximation; "spiral burnishing" is a more accurate designation. Practically all ring-burnished bowls are covered with a red ocher (haematite clay) slip before being burnished. At its best this technique is extremely beautiful, and at its worst the effect is not unpleasant. Ring-burnished sherds form by far the largest single group of characteristic sherds on all EI II sites. There can be no doubt, after our work in



1931 at Beth-zur, that ring-burnishing went out of general use in the sixth century; later datings are on a par with all Macalister's Persian and Hellenistic data for characteristic EI II pottery. The thickened rims on the bowls illustrated on pl. 60-63 are extremely characteristic; for profiles see the collection from Gibeon, *ANNUAL*, IV, 83. Much more graceful flat rims, introduced in period B, continued through A down to the seventh century; see pl. 65: 20 ff., 66, 3, 7. Hardly any of our complete vases have exterior ring-burnishing, since this practice, which was characteristic of B<sub>2</sub> and A<sub>1</sub>, disappeared almost entirely about 800 B. C. (not later than the eighth century). On the other hand, many saucers and small bowls have exterior surfaces decorated with bands of red or brown slip (especially pl. 63-64). On pl. 65 are bowls and saucers of a different type, which have been grouped with vases of the ring-burnished type (whether actually ring-burnished or not) for convenience: nos. 14-19 and 31. Ring-burnished bowls and plates, as well as vessels of the same form, but without burnishing, are excessively common in all parts of Palestine and southern Syria during EI II; I have picked them up on many scores of sites all over this region. In the *ANNUAL*, IV, 18, I have corrected Woolley's ascription of this class of pottery, which he found on Jewish sites in the Negeb, to the "Second Semitic."

116. On pl. 67: 20-26 is represented a group of squat handleless pots, which I have been unable, for lack of published material, to duplicate elsewhere. No. 22 has three projecting knobs on the sides in lieu of handles; the type and provenience, however, are both pure EI II. Nos. 23-6 and 28 are related forms; no. 24 is ring-burnished on the outside, over a gray surface. No. 27 is surely too small to have served for any practical purpose; it is presumably a child's toy. Nos. 29-30, with holes in the necks, opposite one another, were evidently also toys, carried by children, who presumably suspended them by a hair, as though they were pails. Nos. 31-3 are enigmatic. No. 35 is the upper part of a graceful one-handled jug, with a pinched lip and with a raised ridge provided with leaf ornament around the neck; I know of no parallel. No. 36 is not an anomalous lentoid flask, but a two-handled juglet, with vertical line-burnishing.

119. Some selected lamps from stratum A are represented on pl. 70, with photographs on pl. 34. These lamps have the same appearance from above as the characteristic broad-lipped lamps of period B (EI I), but they differ from them in having a foot, either flat, disc, or raised. It must be borne in mind that the lamps with low foot are not necessarily older than those with a high foot, though the latter tend, as a class, to be younger than the former. It is still uncertain whether this type of lamp survived long after the exile or not; the present probability seems to be that it was gradually

replaced during the Persian period by the small, folded type illustrated in *Gezer*, II, 218, fig. 368, which we found in great abundance in EI III-Hellenistic deposits at Beth-zur. In the same way, the folded type was gradually displaced in the third (and second?) century B. C. by the imported Hellenistic lamp. It is important to note that the low foot is more characteristic of southern Judah, and the high foot of northern Judah; at Beth-shemesh, Beth-zur, and Gibeah, as well as at Jerusalem, the high foot is more common. The low foot disappeared after the Exile, in any event. A good illustration of the appearance of high and low feet simultaneously is provided by the group from tomb 7 at Beth-shemesh, APEF II, pl. XLVII: 1-4 (about the eighth century B. C.). The variation of the lamp, which makes it a *very unsafe criterium for chronology*, is drastically illustrated by the examples from Gerar, where we find lamps with broad flat rim, but with rounded or flat base, in abundance right down through our period. The lamp with low foot appears in only one example, at 197, i. e., cir. 600 B. C. The lamp with high foot occurs also once, at 202, i. e., about the fifth century B. C., while the Hellenistic lamp comes in about 200, i. e., about the same time that the Attic coinage was being adopted, early in the fifth century. Our no. 11 is on a pedestal, like lamps from Megiddo at a slightly earlier period (M II, 82, figs. 73-4). We also found another lamp on a high pedestal (not figured here).

120. The rest of the pieces illustrated in pl. 70: 12-16 and 71 (with photographs pl. 37: 17-22 and 36: 1-5) may be described briefly. All are certainly of A<sub>2</sub>, and parallels are available elsewhere for most of them. Note the collar-rim on the two globular vessels 70: 12 and 16. The one-handled jug with a strainer-spout does not belong to period B, as might be thoughtlessly supposed (though clay and technique are EI II), but is roughly parallel to *Gerar* 67 L, etc., which comes down into EI II. The lentoid flasks 70: 15 and 71: 6 are not painted, according to EI I technique, but are spiral-burnished. No. 15 has a reddish brown slip, while no. 6 has a reddish buff surface, without slip. The animal vase 71: 1, which stood on its caudal extremity, is undecorated. No. 2 is an ugly vase with buff surface, and with daubs of red and yellow paint. No. 3 is a shapeless pot with an animal-head spout, apparently unpainted; such animal-head spouts are known from various parts of Palestine, Syria, and Cyprus. Nos. 4 and 5, together with the broken piece 37: 18, belong to a class of imported vases, with long, graceful necks and two double-handles. No. 5 (— 37: 17) is made of white clay, knife-finished to imitate alabaster. No. 4 and 37: 18 are covered with a creamy white slip, highly burnished, also with the purpose of imitating alabaster. In the last analysis these vases are dependent upon Egyptian New Empire alabaster;

I do not know whether any similar imitations are known from sites in Palestine or Cyprus. Nos. 7-13 (cf. the photograph, pl. 36: 1-5) are jar-stands of typical EI form, though there is no great variation in the form of jar-stands in different periods; cf. the collection of examples CPP, 96.

121. In fig. 15 are collected specimens of incised potters' marks (nos. 1-4) and potters' stamps (nos. 5-11). The former consist of a pentagram (cf. BM, pl. 56, no. 53), a double-axe, an archaic *teth* (or a wheel), and a *tau*. The

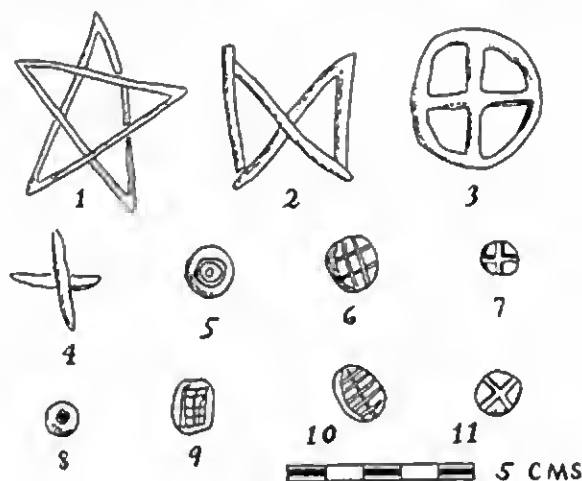


Fig. 15

first three are all rare; the fourth is extremely common on the handles of cooking pots (see above, § 109). The other stamps are in part well-known from the mounds of the Shephelah (BM, pl. 56, nos. 45-8; cf. G II. 211, fig. 361: 4). It may be possible some day to apportion these potters' marks among the various places attached to the potters' guilds. We have already described our stamped seal impressions with inscriptions in § 101. No rosette stamps, like the numerous preëxilic examples from the Shephelah mounds (BM, pl. 56, nos. 35 ff.) and from Beth-zur (*Bulletin*, 43, 7), were found. One wonders whether there may not have been two rival groups of potters' guilds, one employing variations on the rosette theme, the other variations on the *tau* and *samek* themes (like our nos. 6-7, 9-11).

122. In closing this account of the pottery of stratum A we may mention a very curious representation which had been incised on the wall of a cooking pot before baking (pl. 40: 2). This is a branching tree growing in a pot, indicated conceptually by a circle, from the center of which rises the stem of the little tree. For the nature and meaning of the drawing see Schäfer,

*Von ägyptischer Kunst*<sup>2</sup>, p. 90 ff. It has been suggested that the drawing is intended to represent an asherah. In our ignorance of the exact nature of the Canaanite asherah as an object of cult, this suggestion cannot be regarded as more than a possibility. That the representation has something to do with the pagan custom of planting a young tree or shrub in a jar in connection with festivals or religious services seems, however, probable. The date is about 600 B. C., or a little earlier.



# INDEX OF THE POTTERY IN THE PLATES

The serial numbers (S. N.) of vases and other pottery objects will be given in this index, but not the provenience, since the latter has no value until the plans of our excavations appear in vol. II of the Tell Beit Mirsim publication. Lists of all important room-groups will be printed there. References are to the sections where the pottery in question is treated.

Pl. 1 §§ 2, 7, 8, 8A, 16	Pl. 24 §§ 82 (nos. 37-52), 87, 97 (1-30)
2 2, 7, 8A	25 87, 90, 97
3 2, 8, 11, 12, 14, 15, 16, 23, 48	26 70 (nos. 1-27), 70-80 (28-45), 05
4 2, 11, 12, 10, 17, 18, 10, 23, 24, 37	27 87 (nos. 1-33), 88 (34-50)
5 11, 12, 19	28 83 (nos. 1-16), 84 (17-31)
6 8, 11, 12, 20, 21, 22, 23	29 78 (nos. 1-12), 85 (13)
7 20, 22, 23, 24	30 85
8 30 (no. 1), 30 (5), 38 (2, 4), 43 (3).—S. N.: 1 = 801, 2 = 741; 3 = 707, 4 = 758, 5 = 787	31 89 (nos. 1-33, 80 (34-0), 91 (37-48), 95, 117
9 31 (no. 4), 32 (8-10), 33 (5-7), 40 (1-3).—S. N.: 1 = 1480, 2 = 796, 3 = 795, 4 = 798, 5 = 763, 6 = 762, 7 = 746, 8 = 759, 9 = 760, 10 = 761	32 104 (no. 4), 105 (1-3).—S. N.: 1 = 35, 2 = 36, 3 = 35
10 28, 32, 33, 34, 35, 36, 38, 39, 48	33 103.—S. N.: 1 = 634, 2 = 249, 3 = 248, 4 = 13
11 28, 32, 33, 34, 35, 30	34 100 (nos. 1-5), 117 (12), 118 0-11).—S. N.: 1 = 10, 3 = 8, 4 = 273, 5 = 382, 6 = 445, 7 = 515, 8 = 012, 9 = 444, 10 = 201, 11 = 102, 12 = 50
12 28, 32, 33, 35, 37 (no. 12), 48.— S. N.: 12 = 1628	35 109, 110 (no. 7).—S. N.: 1 = 454, 2 = 335, 3 = 222, 4 = 350, 5 = 31, 6 = 388, 7 = 289, 8 = 224, 9 = 058, 10 = 308, 11 = 378
13 8, 17, 28, 33, 35, 37, 39, 39A, 44 (nos. 29-56)	36 108 (nos. 6-10), 120 (1-5).— S. N.: 1 = 471, 2 = 778, 3 = 93, 4 = 334, 5 = 353, 6 = 202, 7 = 128, 8 = 518, 9 = 89, 10 = 705
14 57 (nos. 1-2), 58 (8), 59 (3-7), 62 (9).—S. N.: 1 = 1643, 2 = 1500, 3 = 422, 4 = 545, 5 = 053, 6 = 640, 7 = 514, 8 = 657, 9 = 440	37 111, 112, 120 (nos. 17-22).— S. N.: 1 = 532, 2 = 421, 3 = 94, 4 = 08, 5 = 77, 6 = 487, 7 = 666, 8 = 240, 9 = 283, 10 = 358, 11 = 402, 12 = 10, 13 = 34, 14 = 050, 15 = 259, 16 = 558, 17 = 405, 19 = 175, 20 = 326, 21 = 557, 22 = 53
15 66	
16 61, 63	
17 63, 64	
18 64	
19 53, 65, 67	
20 65, 66	
21 55, 56, 57, 69	
22 61, 65, 68 (nos. 1-26), 70 (27-51)	
23 82 (no. 1), 87 (4), 92 (5-0), 93 (2-3).—S. N.: 1 = 1644, 2 = 531, 3 = 663, 4 = 627, 5 = 633, 6 = 645	

Pl. 38 §§ 111, 112.—S. N.: 1 = 695, 2 =

826, 3 = 352, 4 = 065, 5 =  
585, 6 = 805, 7 = 015, 8 =  
313, 9 = 348, 10 = 822, 11 =  
375, 12 = 157, 13 = 121,  
14 = 324, 15 = 124, 16 = 823,  
17 = 16, 18 = 712, 19 = 395,  
20 = 584, 21 = 127

39 112, 110 (nos. 13-18).—S. N.:  
13 = 327, 14 = 09, 15 = 359,  
16 = 520, 17 = 17, 18 = 139,  
19 = 149

40 97 (no. 1), 101 (3-5), 107, 122  
(2).—S. N.: 1 = 1386, 2 =  
1316, 3 = 1068, 4 = 867, 5 =  
860

41 15, 20 (nos. 1-6), 21 (2), 22  
(6), 25 (7), 27 (8-9), 28 (10,  
12-16), 29, 37 (11).—S. N.:  
3 = 1166, 5 = 1107, 7 = 906,  
8 = 601, 9 = 067, 10 = 837,  
11 = 1628, 12 = 836, 13 = 833,  
14 = 834, 15 = 835, 16 = 838

42 31 (no. 16), 32 (6, 11-14), 33  
(4-8), 40 (1-3).—S. N.: 1 =  
766, 2 = 749, 3 = 795, 4 = 762,  
5 = 746, 6 = 763, 7 = 810,  
8 = 782, 9 = 761, 10 = 798,  
11 = 641, 12 = 759, 13 = 766,  
14 = 786

43 32 (nos. 5, 7), 34 (6, 4a), 35  
(9), 38 (3-4), 40 (1-2), 50  
(10-14).—S. N.: 1 = 1588,  
2 = 840, 3 = 758, 4 = 1611,  
4a = 342, 5 = 844, 6 = 1622,  
7 = 843, 9 = 1606, 10 = 1557,  
11 = 754, 12 = 1616, 13 =  
1448, 14 = 054

44 35 (nos. 6-9), 30 (10-13), 41  
(15), 42 (14), 56 (1-2), 57  
(5), 62 (3-4).—S. N.: 1 =  
589, 2 = 448, 3 = 150, 4 = 440,  
5 = 411, 6 = 783, 7 = 785,  
8 = 784, 9 = 802, 10 = 788,  
11 = 700, 12 = 789, 13 = 787,  
14 = 169, 15 = 764

45 14, 28, 50 (nos. 20, 22-24), 58  
(19, 21).—S. N.: 20 = 190,  
22 = 187, 23 = 188, 24 = 189

Pl. 46 §§ 28, 64, 65, 67

47 50 (nos. 1-8), 53 (12), 54 (13),  
55 (11), 57 (14), 58 (16, 15),  
62 (9), 65 (15), 68 (10-15).—  
S. N.: 1 = 667, 2 = 643,  
3 = 636, 4 = 1413, 5 = 642,  
6 = 1449, 7 = 1356, 8 = 573,  
9 = 1354, 10 = 1597, 11 =  
1615, 12 = 1599, 13 = 1609,  
14 = 1500, 15 = 1447

48 59.—S. N.: 1 = 1415, 2 = 1625,  
3 = 1416, 4 = 1418, 5 = 1417,  
6 = 1419, 7 = 422, 8 = 545,  
9 = 640

49 63, 64, 82 (nos. 2, 5).—S. N.:  
2 = 183, 5 = 184, 7 = 185

50 42 (no. 2), 50 (1, 3), 52 (2, 4),  
82 (10), 92 (5, 7-9, 13), 93  
(6), 94 (11).—S. N.: 1 = 434,  
2 = 402, 3 = 542, 4 = 493,  
5 = 15, 6 = 514, 7 = 1500,  
8 = 633, 9 = 1267, 10 = 476,  
11 = 1620

51 80 (no. 18), 87 (13, 17), 92 (7,  
14-17, 19), 93 (1, 6), 94 (2-3,  
8, 10-12), 95 (9), 96 (4-5).—  
S. N.: 1 = 1529, 2 = 430,  
3 = 488, 4 = 1330, 5 = 1412,  
6 = 1369, 7 = 1314, 8 = 1304,  
9 = 1268, 10 = 1561, 11 =  
1196, 12 = 1467, 13 = 627,  
14 = 528, 15 = 533, 16 = 1450,  
17 = 1445, 18 = 1446

52 103 (nos. 1-6), 104 (10-11, 14),  
105 (12-13).—S. N.: 1 = 1149,  
2 = 1501, 3 = 13, 4 = 37,  
5 = 248, 6 = 250, 7 = 249,  
8 = 634, 9 = 1562, 10 = 1135,  
11 = 1134, 12 = 35, 13 = 14,  
14 = 63

53 104 (nos. 2, 4-6), 166 (1, 3),  
108 (7-12).—S. N.: 1 = 1133,  
2 = 806, 3 = 1132, 4 = 1173,  
5 = 1147, 6 = 1530, 7 = 1085,  
8 = 202, 9 = 1191, 10 = 1558,  
11 = 559, 12 = 015

- Pl. 54 §§ 106 (nos. 1-4), 108 (5-10).—S. N.: 1 = 8, 2 = 382, 3 = 273, 4 = 175, 5 = 128, 6 = 705, 7 = 89, 8 = 308, 9 = 304, 10 = 518
- 55 100.—S. N.: 1 = 378, 2 = 350, 3 = 658, 4 = 454, 5 = 222, 6 = 308, 7 = 335, 8 = 10, 9 = 31, 10 = 392, 11 = 224, 12 = 388
- 56 109, 110 (nos. 15-17).—S. N.: 1 = 1293, 2 = 1204, 3 = 1205, 4 = 1201, 5 = 1107, 6 = 1095, 7 = 1616, 8 = 1148, 9 = 1631, 10 = 1570, 11 = 1100, 12 = 1160, 13 = 1161, 14 = 1097, 15 = 827, 16 = 280, 17 = 859
- 57 111.—S. N.: 1 = 050, 2 = 1369, 3 = 1265, 4 = 1524, 5 = 1153, 6 = 1084, 7 = 893, 8 = 973, 9 = 1083, 10 = 1361, 11 = 1102, 12 = 395, 13 = 121, 14 = 712, 15 = 08, 16 = 127, 17 = 283
- 58 111.—S. N.: 1 = 1368, 2 = 1200, 3 = 1100, 4 = 1101, 5 = 097, 6 = 1104, 7 = 1508, 8 = 1105, 9 = 851
- 59 111.—S. N.: 1 = 1503, 2 = 1154, 3 = 380, 4 = 469, 5 = 1102, 6 = 532, 7 = 34, 8 = 259, 9 = 1000, 10 = 804, 11 = 099
- 60 117.—S. N.: 1 = 437, 2 = 1030, 3 = 1364, 4 = 1157, 5 = 1158, 6 = 1159, 7 = 1041, 8 = 1299, 9 = 1300, 10 = 1040, 11 = 1363, 12 = 1501, 13 = 1635
- 61 117.—S. N.: 1 = 1566, 2 = 1313, 3 = 1316, 4 = 1055, 5 = 1001, 6 = 1045, 7 = 1044, 8 = 1054, 9 = 1076, 10 = 090, 11 = 016, 12 = 868, 13 = 1090, 14 = 1002, 15 = 1093, 16 = 1008, 17 = 260
- 62 117.—S. N.: 1 = 1242, 2 = 1237, 3 = 1335, 4 = 1337, 5 = 1206, 6 = 1052, 7 = 938B, 8 = 1336
- Pl. 62 §§ 9 = 1058, 10 = 1527, 11 = 1347, 12 = 895, 13 = 1172, 14 = 1636, 15 = 1305, 16 = 1358, 17 = 1471, 18 = 1409, 19 = 1550, 20 = 1183
- 63 117.—S. N.: 1 = 112, 2 = 170, 3 = 178, 4 = 87, 5 = 154, 6 = 153, 7 = 40, 8 = 155, 9 = 110, 10 = 158, 11 = 08
- 64 117.—S. N.: 1 = 72, 2 = 148, 3 = 172, 4 = 132, 5 = 114, 6 = 107, 7 = 171, 8 = 86, 9 = 54, 10 = 85, 11 = 109, 12 = 104, 13 = 133, 14 = 105, 15 = 108, 16 = 134, 17 = 173, 18 = 113
- 65 117.—S. N.: 1 = 410, 2 = 1188, 3 = 894, 4 = 1350, 5 = 1315, 6 = 1057, 7 = 1312, 8 = 1064, 9 = 1500, 10 = 1528, 11 = 1046, 12 = 182, 13 = 1205, 14 = 1107, 15 = 512, 16 = 081, 17 = 513, 18 = 1218, 19 = 60, 20a = 401, 20b = 1348, 21 = 1091, 22 = 1357, 23 = 006, 24 = 054, 25 = 443, 26 = 1059, 27 = 1300, 28 = 802, 29 = 323, 30 = 1075, 31 = 1408
- 66 112, 114 (nos. 21-27), 115 (11-16), 116 (17-20), 117 (1-10).—S. N.: 1 = 610, 2 = 210, 3 = 1632, 4 = 1128, 5 = 1630, 6 = 1298, 7 = 600, 8 = 269, 9 = 815, 10 = 234, 11 = 666, 12 = 149, 13 = 402, 14 = 57, 15 = 1013, 16 = 014, 17 = 1565, 18 = 350, 19 = 520, 20 = 327, 21 = 005, 22 = 004, 23 = 1502, 24 = 1202, 25 = 929B, 26 = 487, 27 = 77
- 67 114 (no. 34), 117 (1-10), 118 (20-36).—S. N.: 1 = 896, 2 = 1351, 3 = 1340, 4 = 1100, 5 = 1129, 6 = 882, 7 = 1080, 8 = 1094, 9 = 1033, 10 =



- Pl. 07 §§ 1590B, 11 = 1130, 12 = 1063, 13 = 1060, 14 = 989, 15 = 1140, 10 = 1033, 17 = 108, 18 = 223, 19 = 1047, 20 = 1297, 21 = 213, 22 = 1032, 23 = 928, 24 = 1065, 25 = 1257, 26 = 1258, 27 = 1027, 28 = 1259, 29 = 303, 30 = 1031, 31 = 1087, 32 = 1029, 33 = 1086, 34 = 1009, 35 = 1601, 30 = 1010
- 68 112, 113, 114 (nos. 23).—S. N.: 1 = 1252, 2 = 1253, 3 = 1254, 4 = 1255, 5 = 1250, 6 = 1303, 7 = 1305, 8 = 1376, 9 = 1505, 10 = 1525, 11 = 1562, 12 = 917, 13 = 877, 14 = 878, 15 = 845, 16 = 870, 17 = 1137, 18 = 1156, 10 = 1074, 20 = 1073, 21 = 1035, 22 = 1036, 23 = 980, 24 = 984, 25 = 1005, 26 = 1006, 27 = 977, 28 = 976, 29 = 1007, 30 = 1008, 31 = 978, 32 = 970, 33 = 926, 34 = 967, 35 = 1247, 36 = 971, 37 = 1224, 38 = 1243, 30 = 1302, 40 = 1407, 41 = 1155, 42 =
- Pl. 68. §§ 1193, 43 = 1122, 44 = 1102, 45 = 1103, 40 = 1563, 47 = 897
- 69 112, 114 (nos. 1-18).—S. N.: 1 = 974, 2 = 975, 3 = 1028, 4 = 1030, 5 = 1123, 6 = 1251, 7 = 1250, 8 = 1507, 9 = 934, 10 = 955, 11 = 931, 12 = 911, 13 = 933, 14 = 932, 15 = 1203, 16 = 871, 17 = 889, 18 = 1072, 19 = 1198, 20 = 1202, 21 = 1620, 22 = 1034, 23 = 1051, 24 = 1025, 25 = 1201, 26 = 1011, 27 = 1012, 28 = 985, 20 = 1244, 30 = 970
- 70 110, 120 (nos. 12-16).—S. N.: 1 = 1053, 2 = 884, 3 = 176, 4 = 875, 5 = 319, 6 = 444, 7 = 962, 8 = 478, 9 = 901, 10 = 1519, 11 = 1018, 12 = 94, 13 = 913, 14 = 1411, 15 = 1621, 16 = 1195
- 71 120.—S. N.: 1 = 447, 2 = 53, 3 = 320, 4 = 465, 6 = 831, 7 = 770, 8 = 470, 9 = 353, 10 = 471, 11 = 472, 12 = 93, 13 = 334

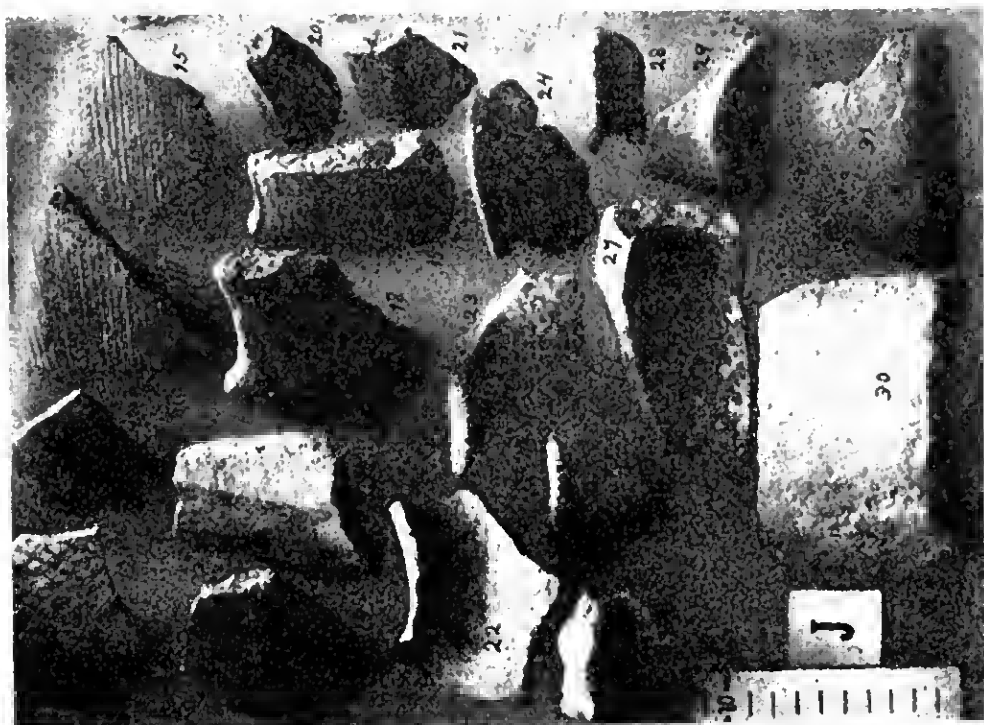


PLATE 1



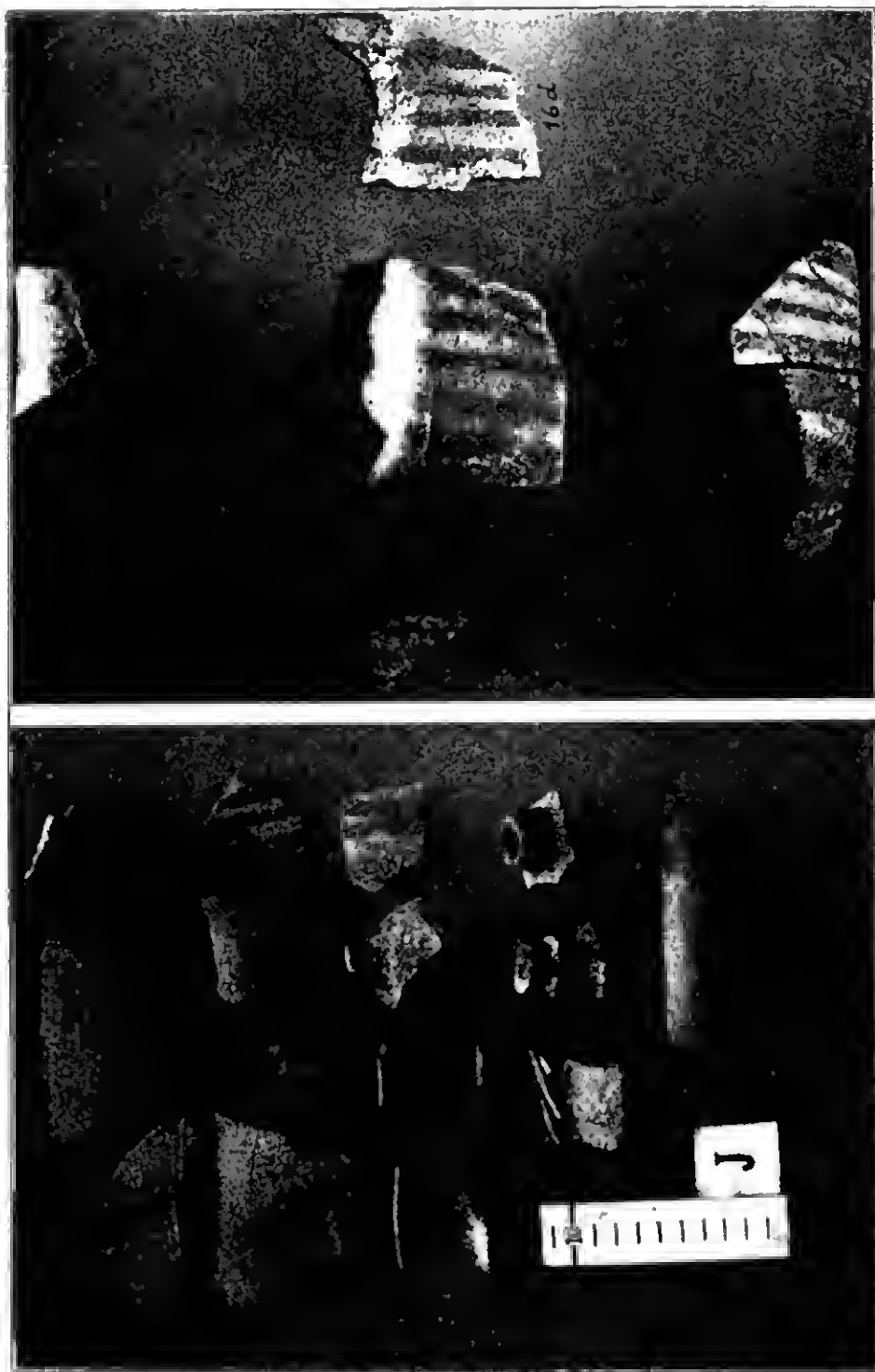


PLATE 2

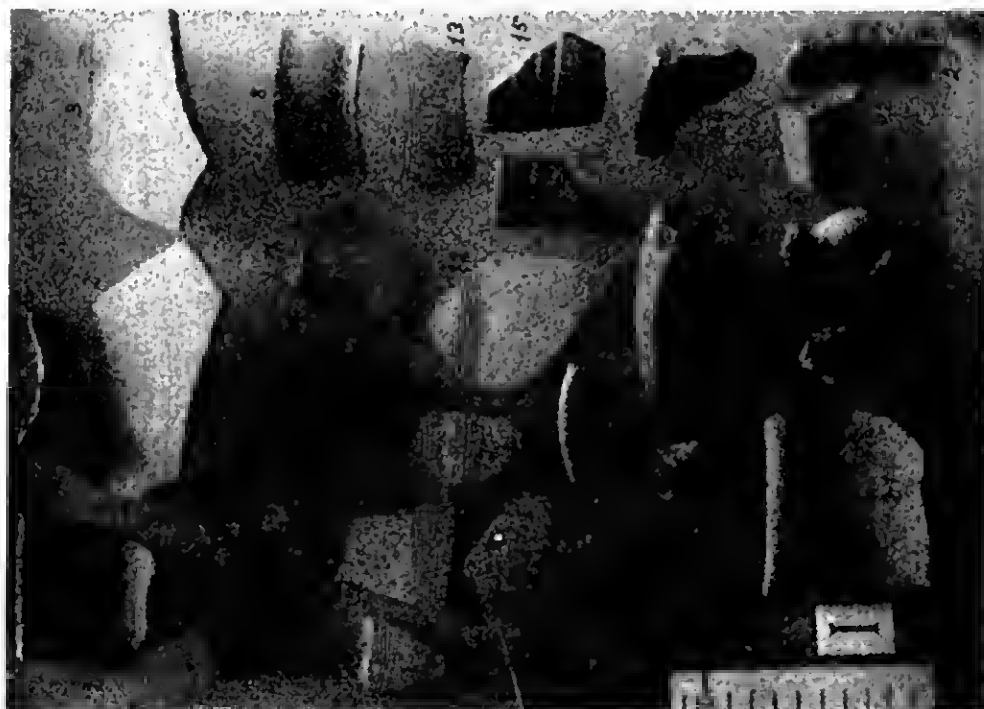


PLATE 3

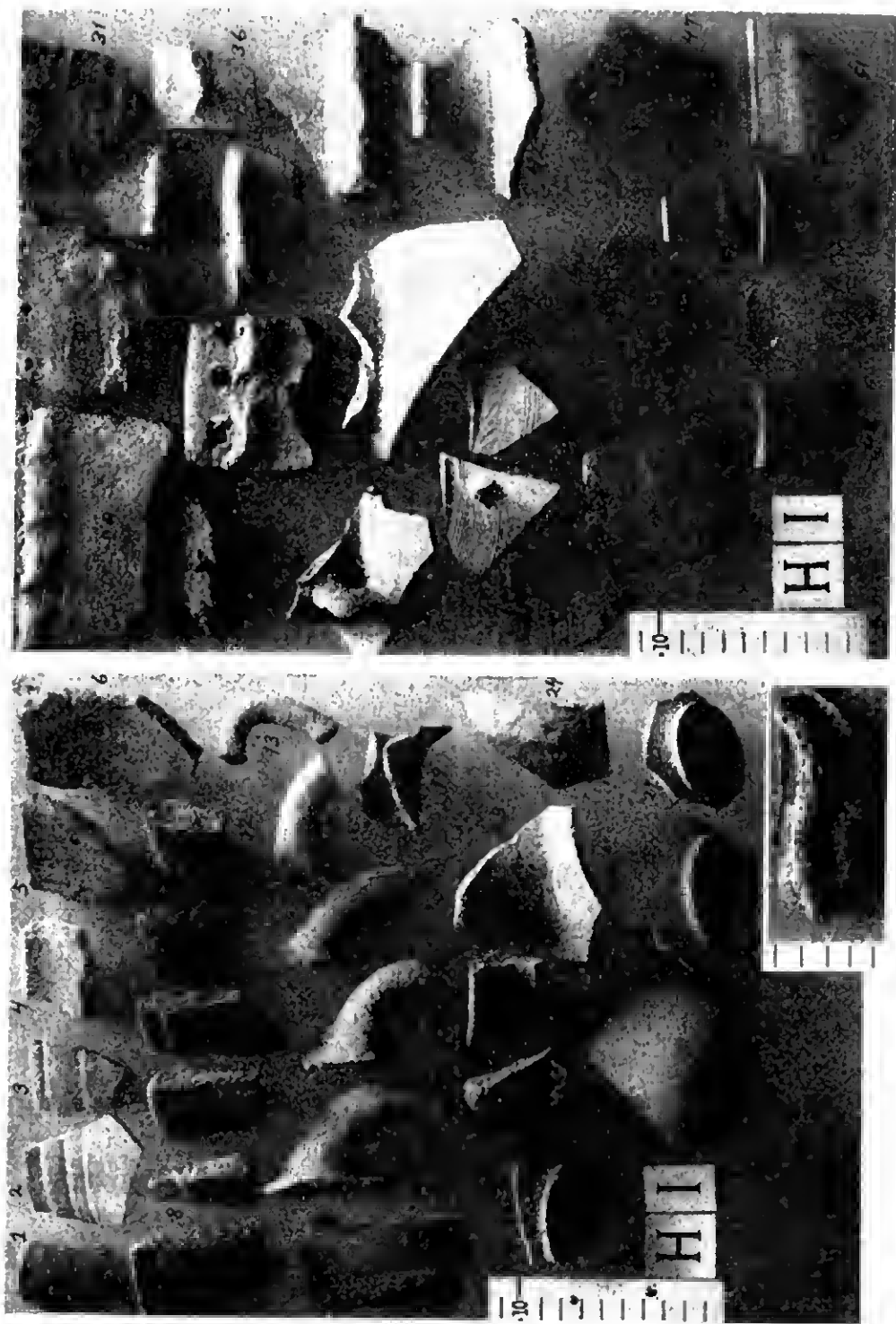


PLATE 4

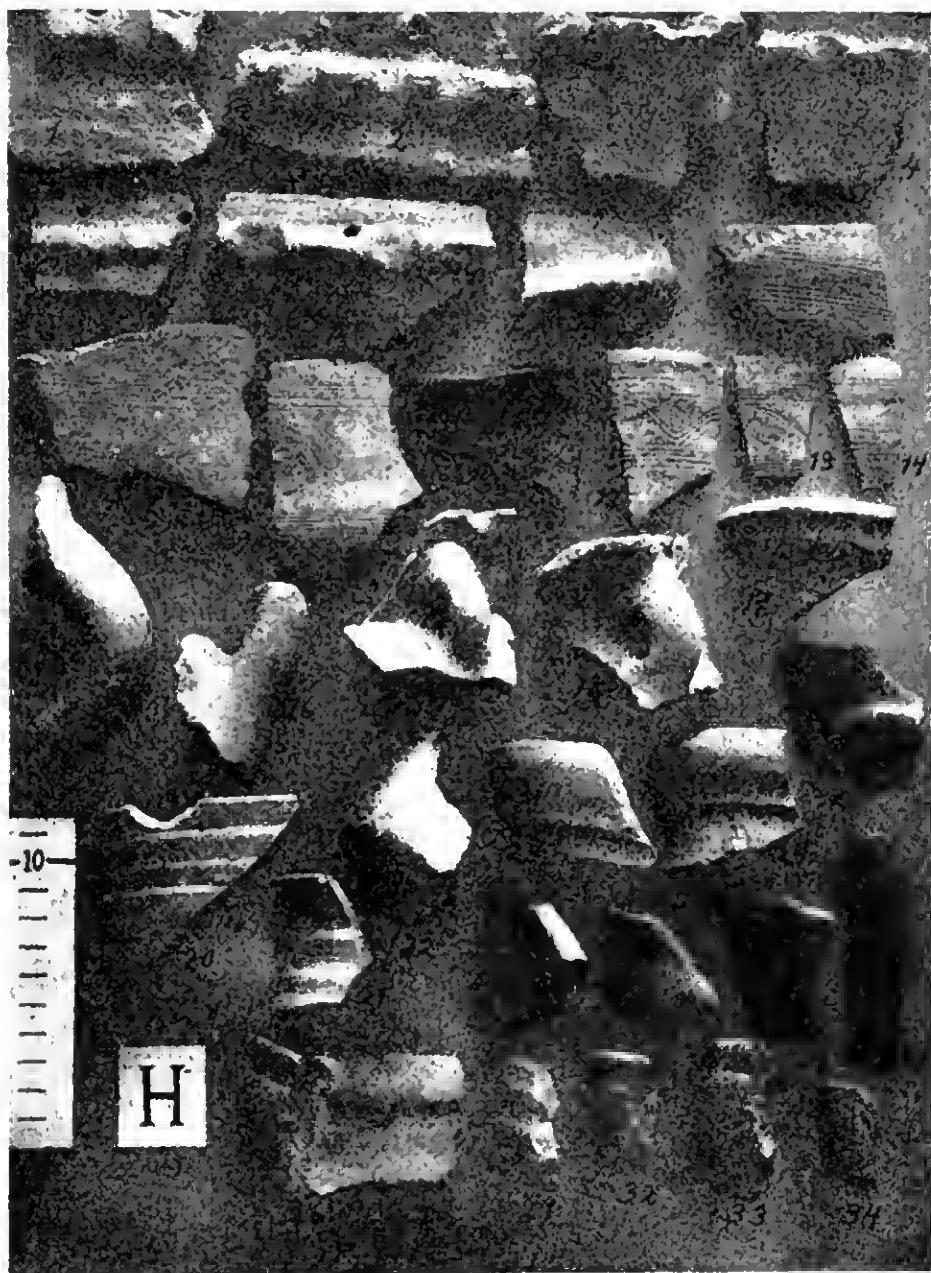


PLATE 5

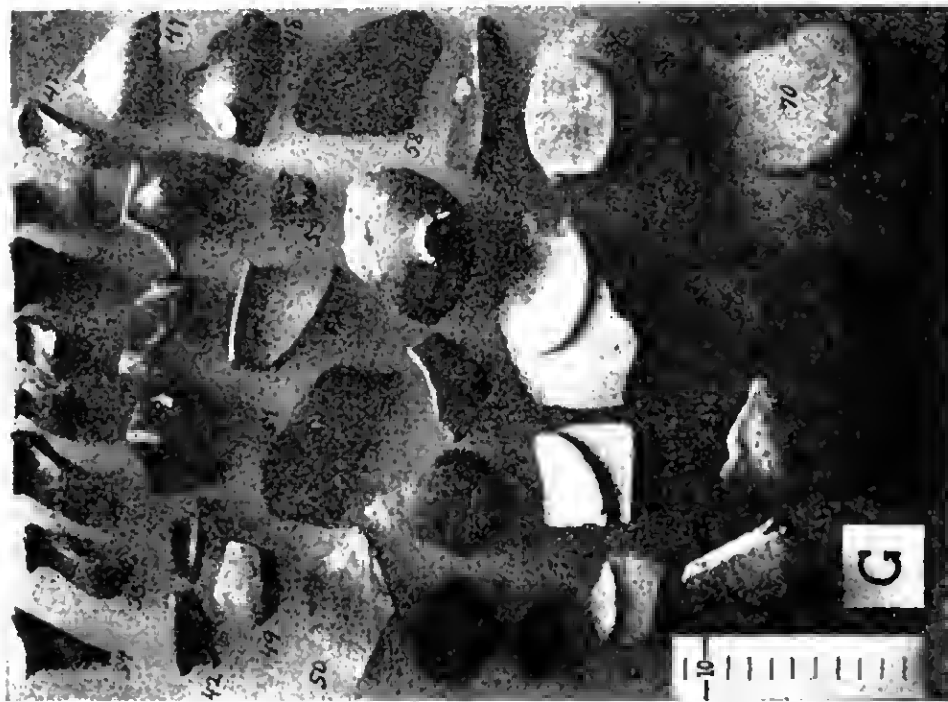




PLATE 7



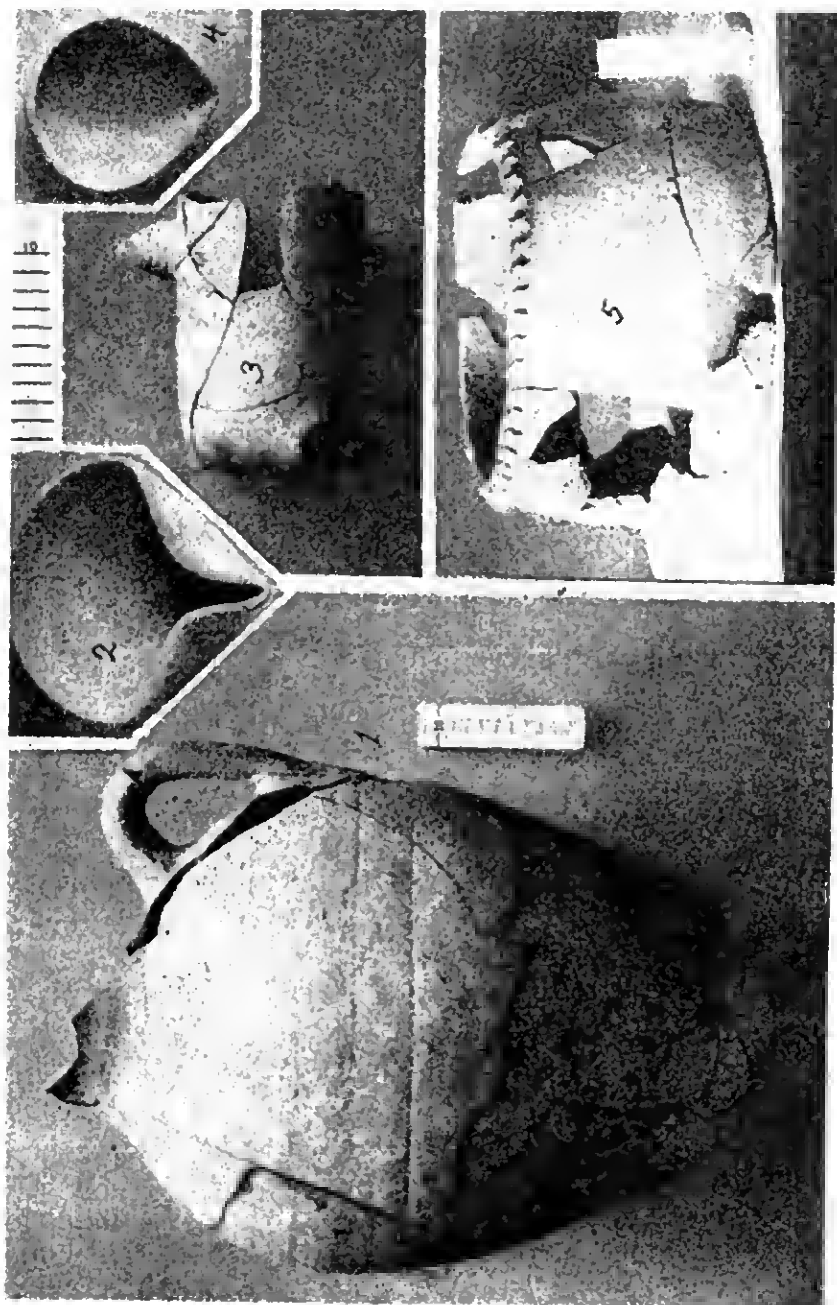


PLATE 8(D)

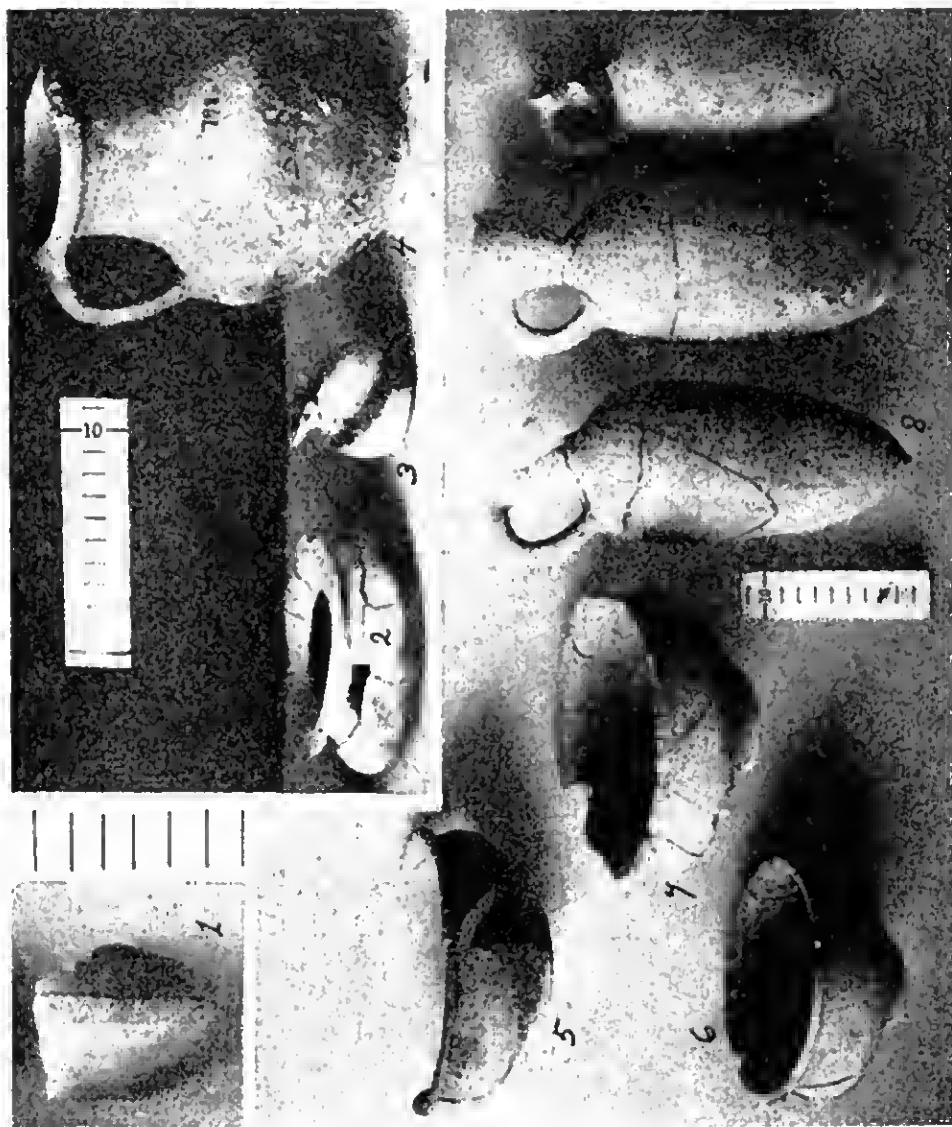


PLATE 9(D)

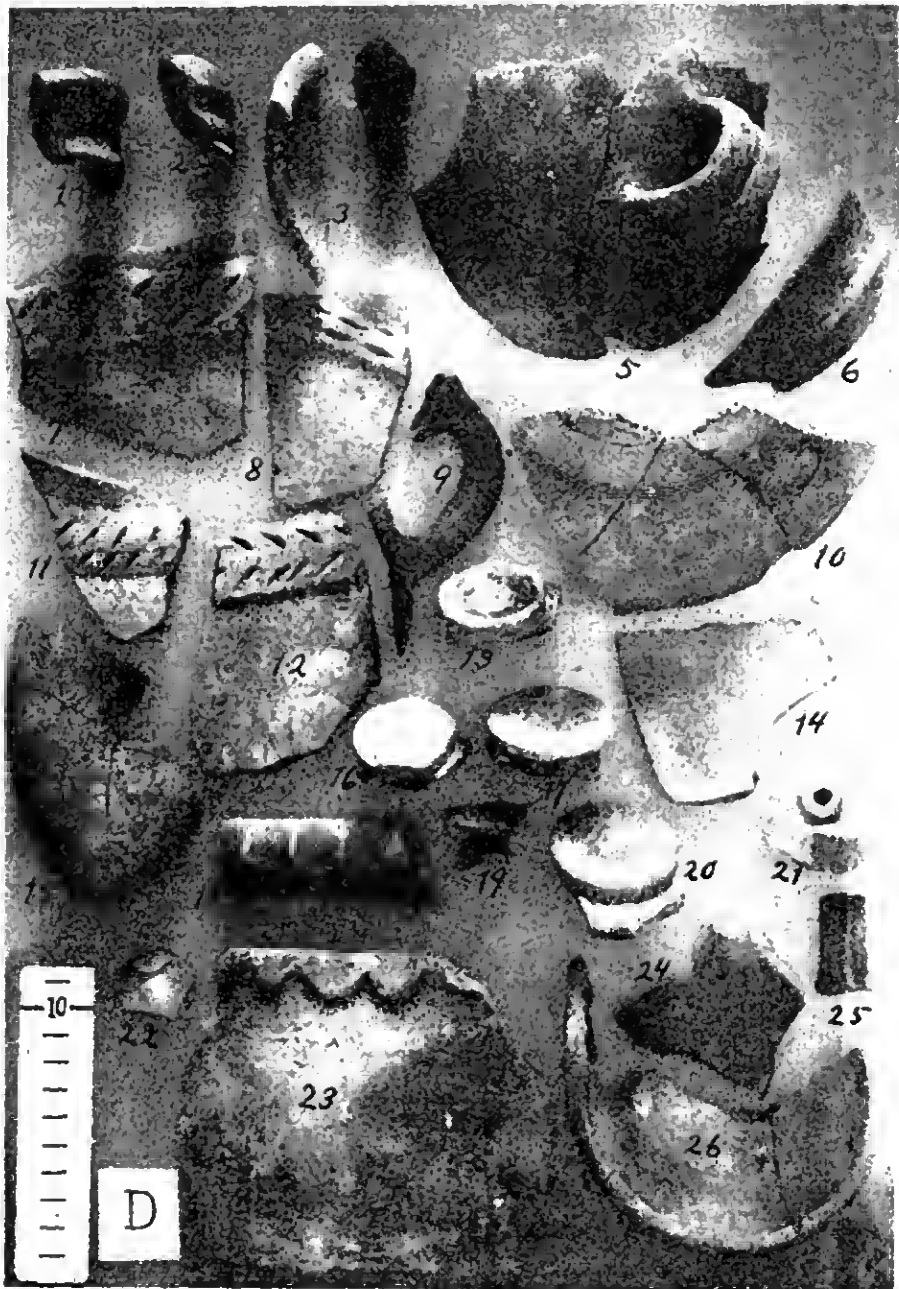


PLATE 10

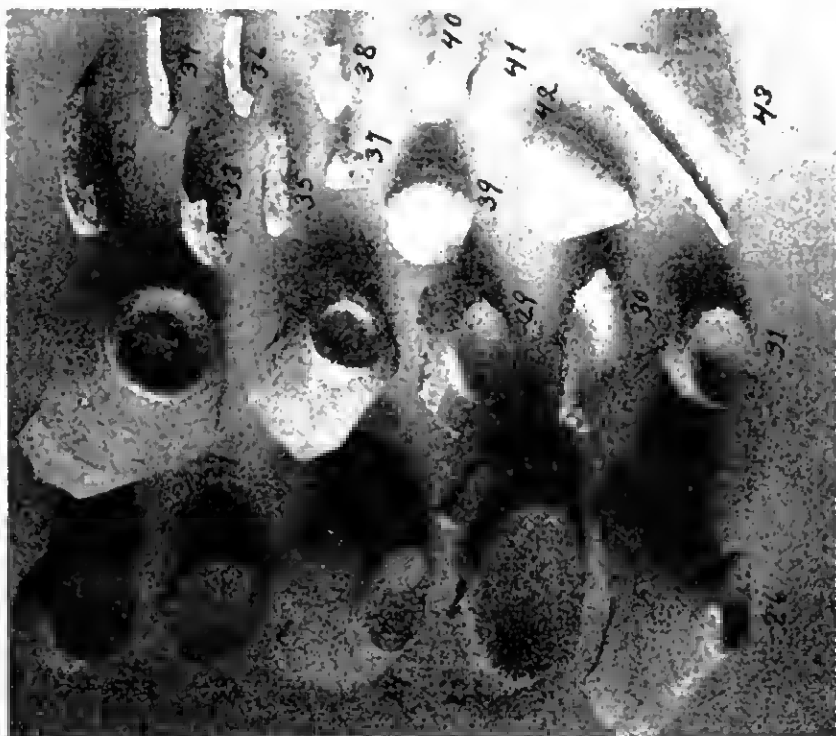


PLATE II(D)

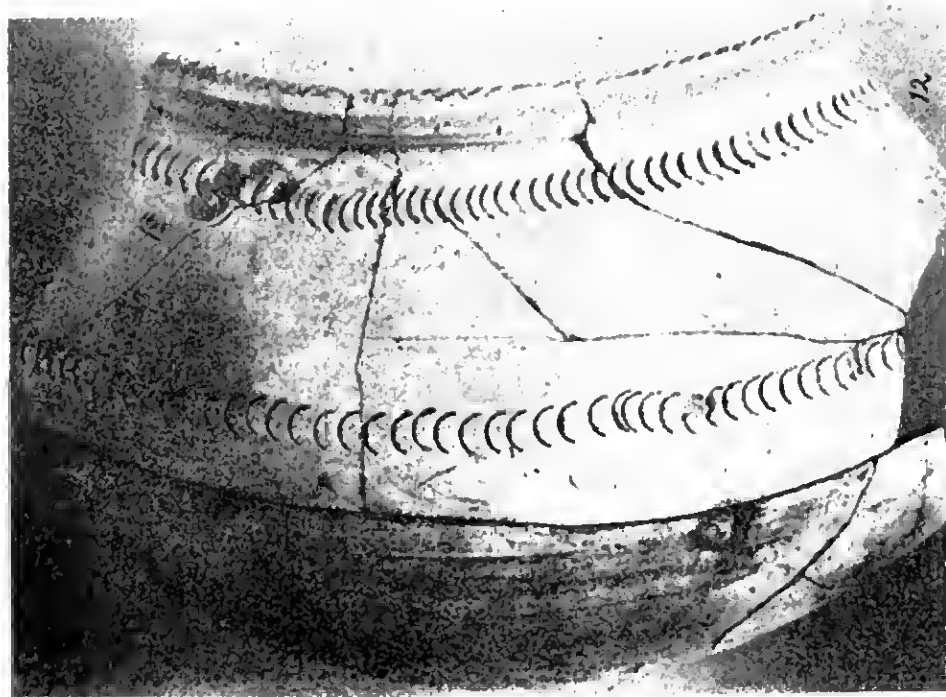


PLATE 12

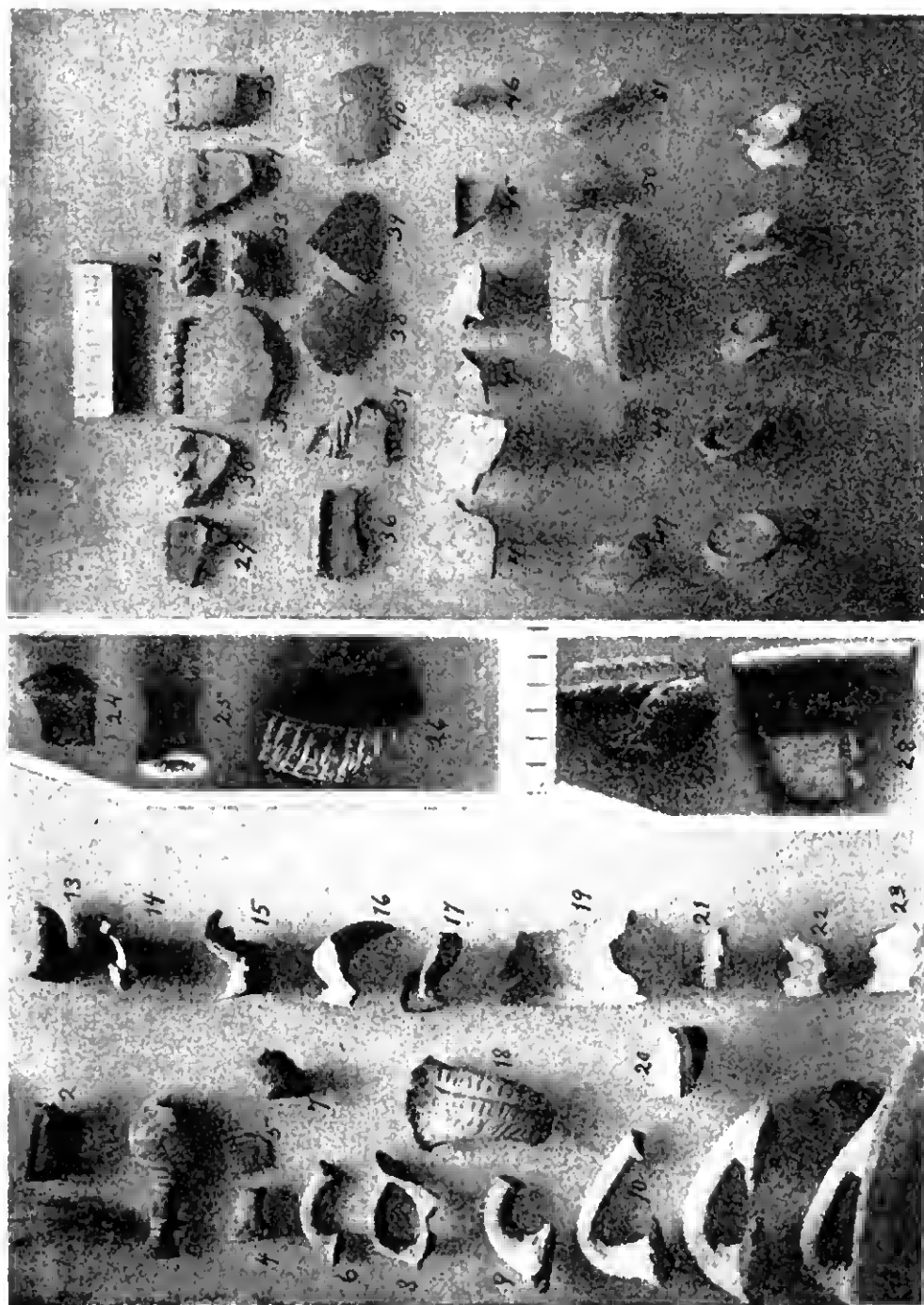
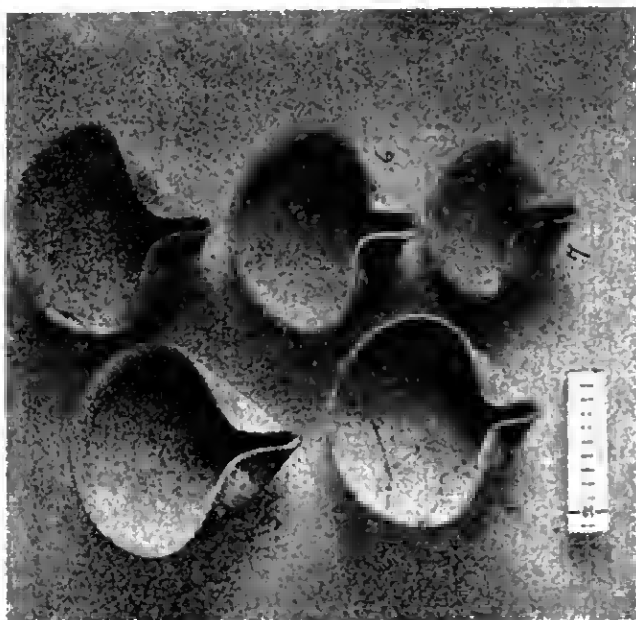


PLATE 13





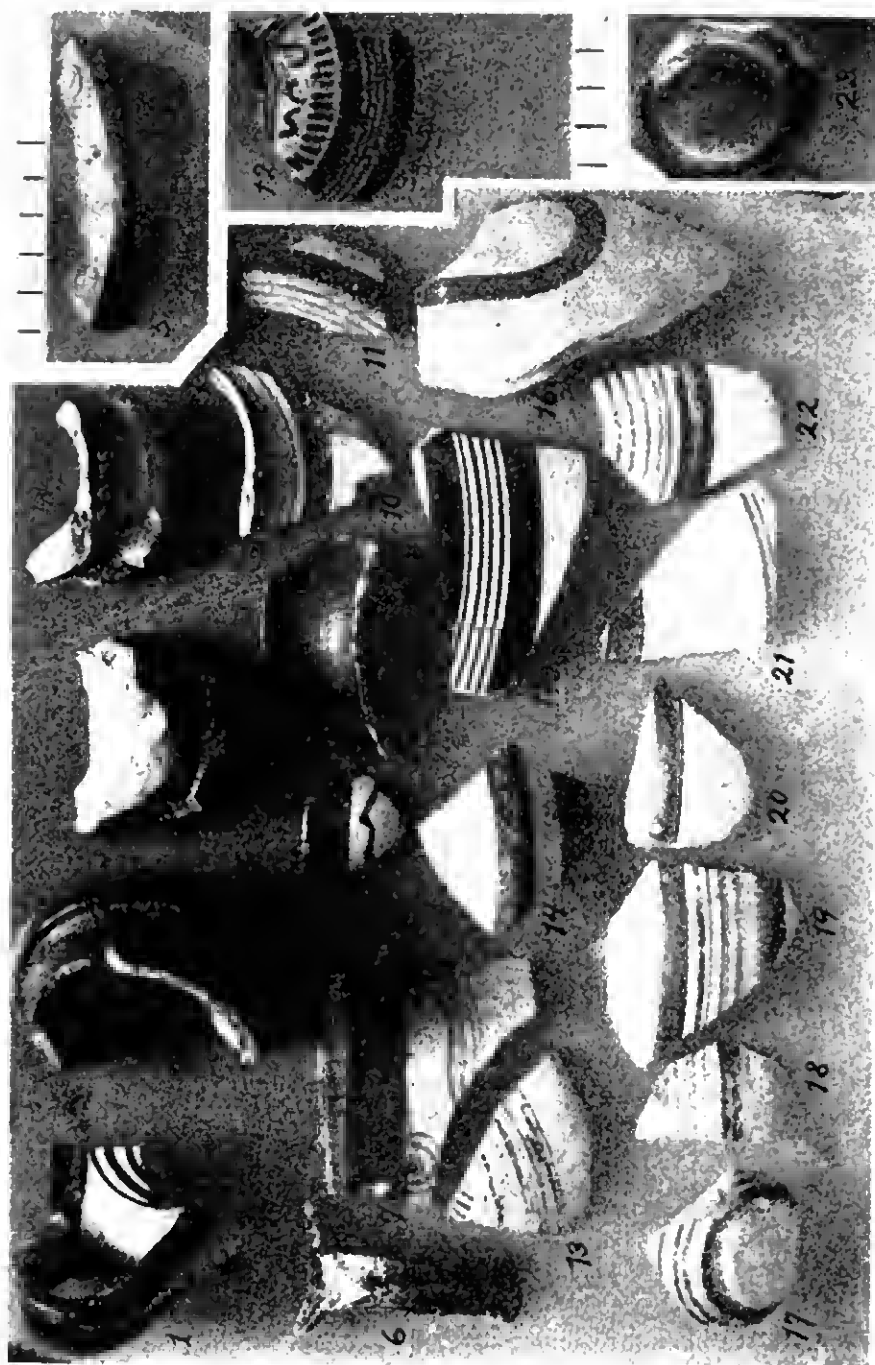


PLATE 15(C)



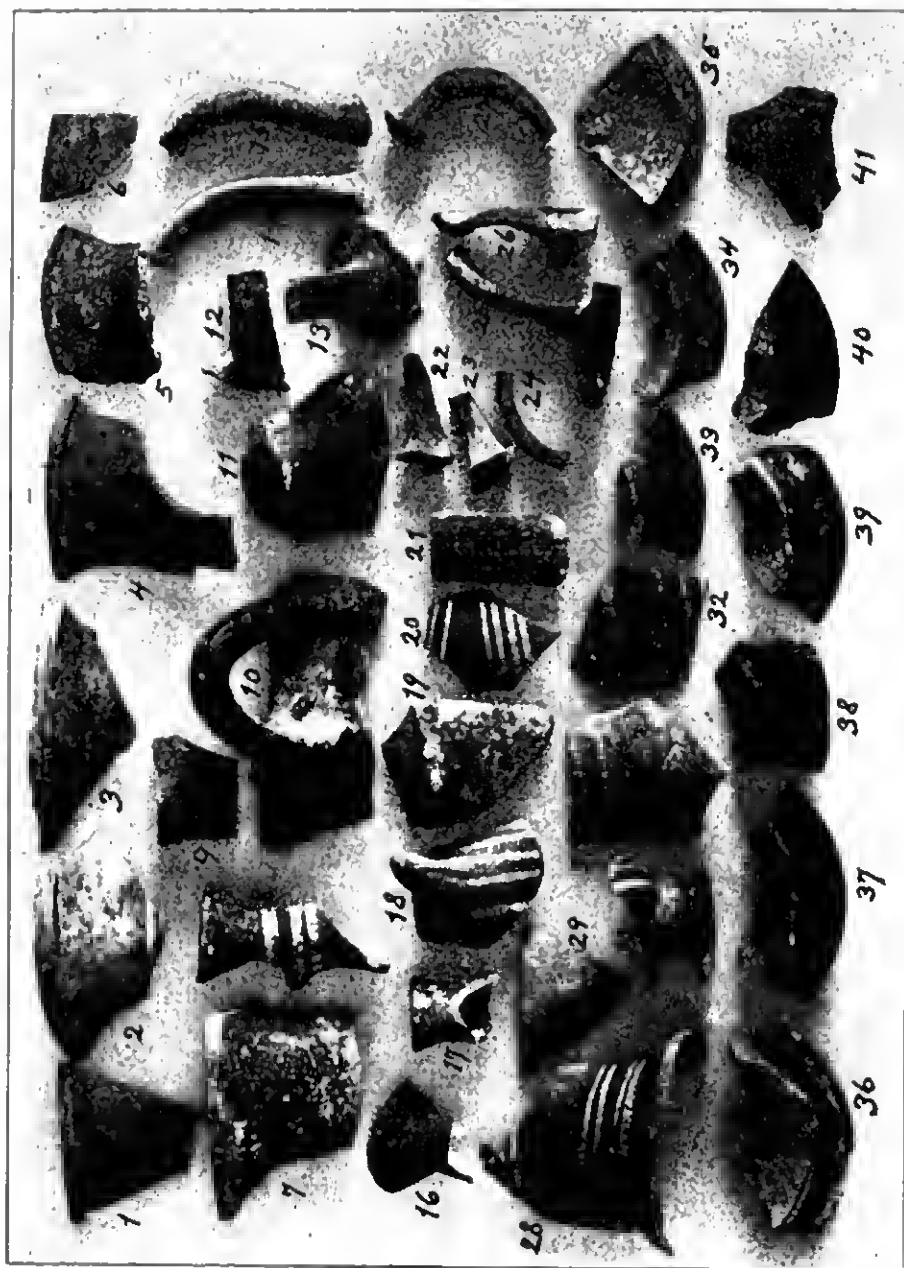


PLATE 16(C)



PLATE 17(C)



PLATE 18(C)



PLATE 19(C)



PLATE 20

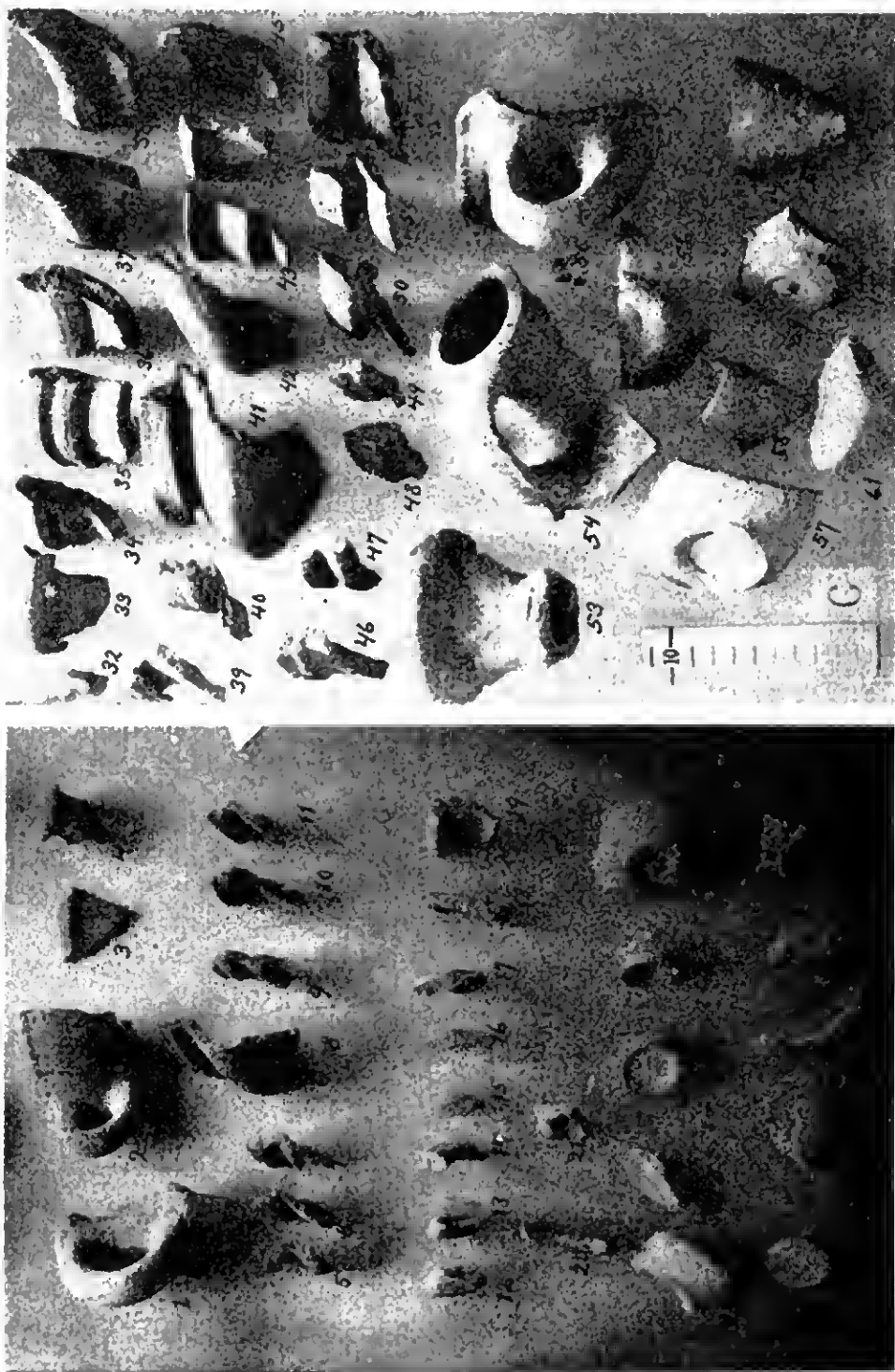


PLATE 21

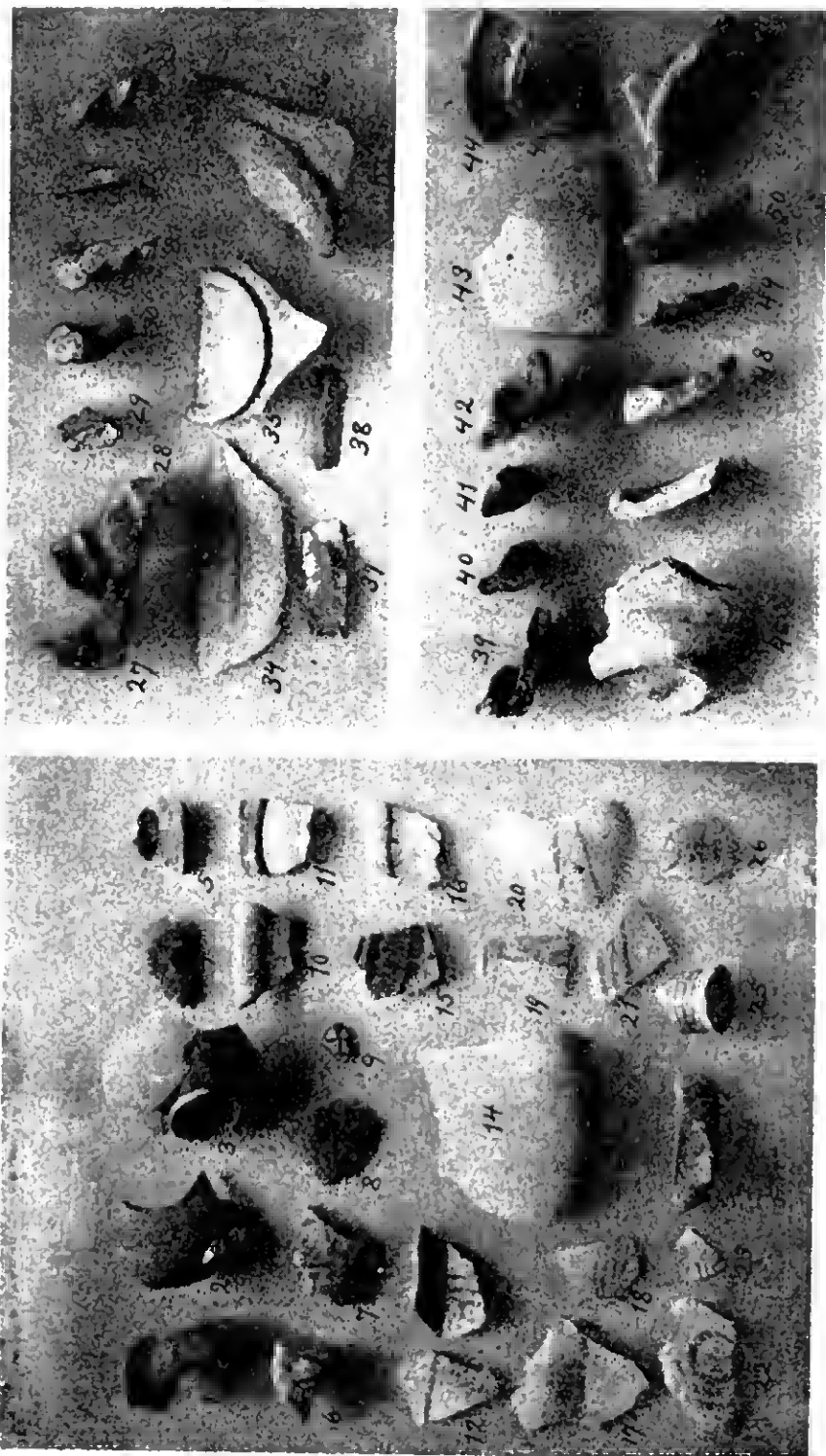


PLATE 22(C)

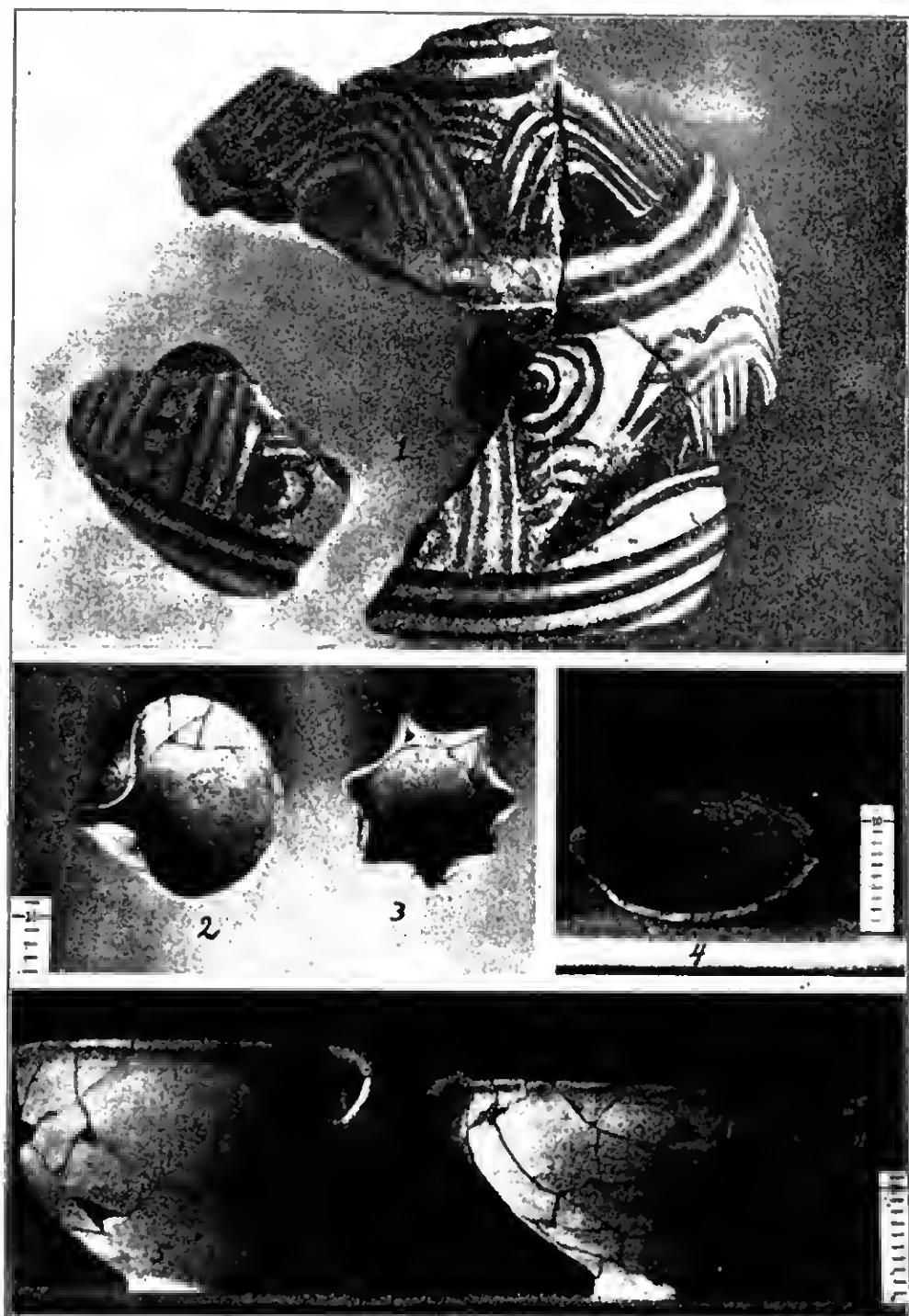


PLATE 23(B)





PLATE 24(B)

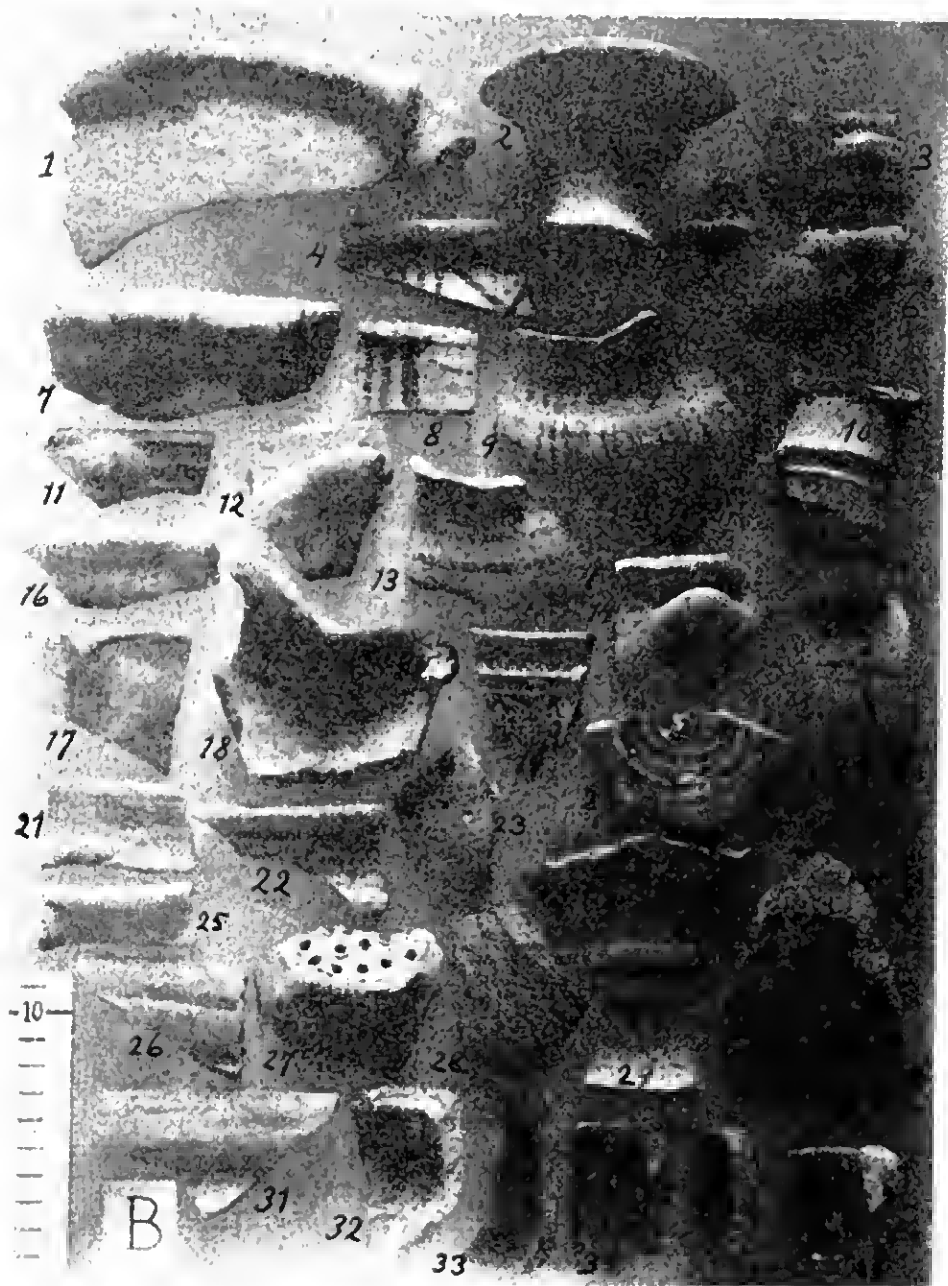


PLATE 25

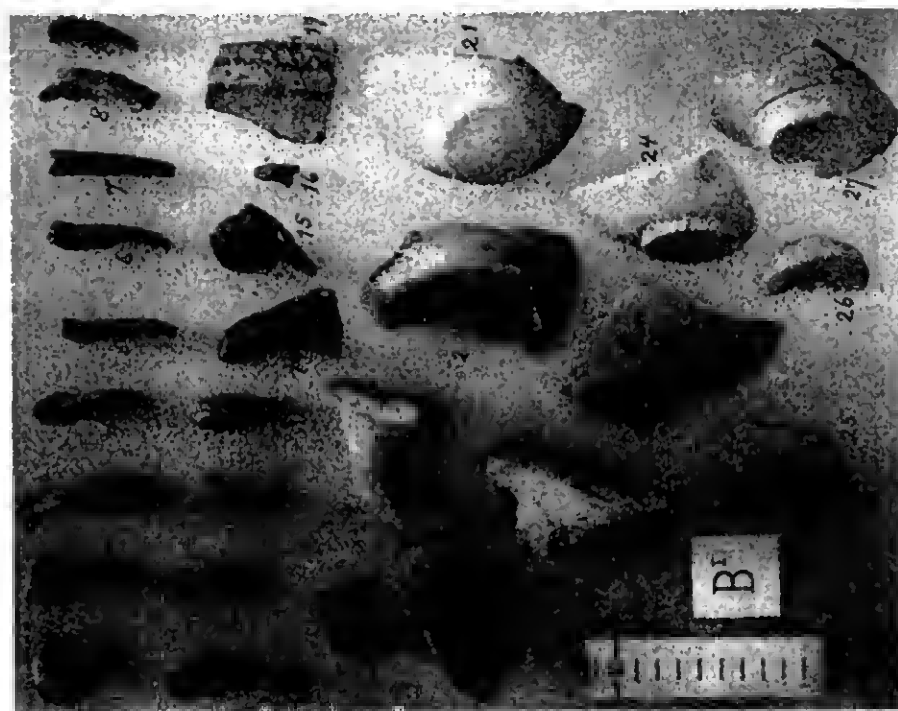


PLATE 26

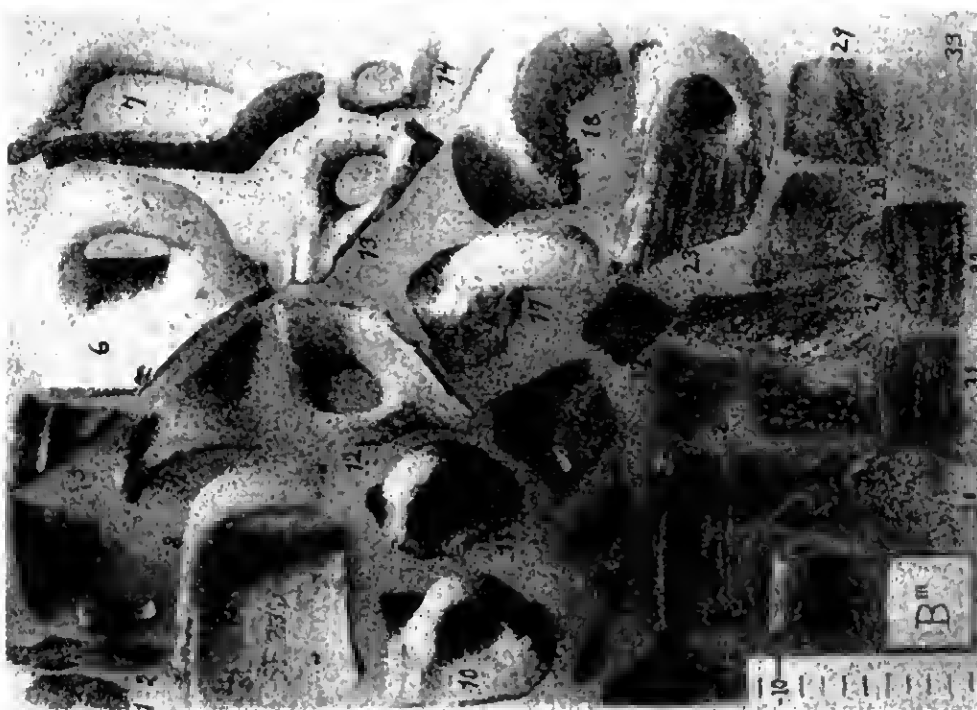
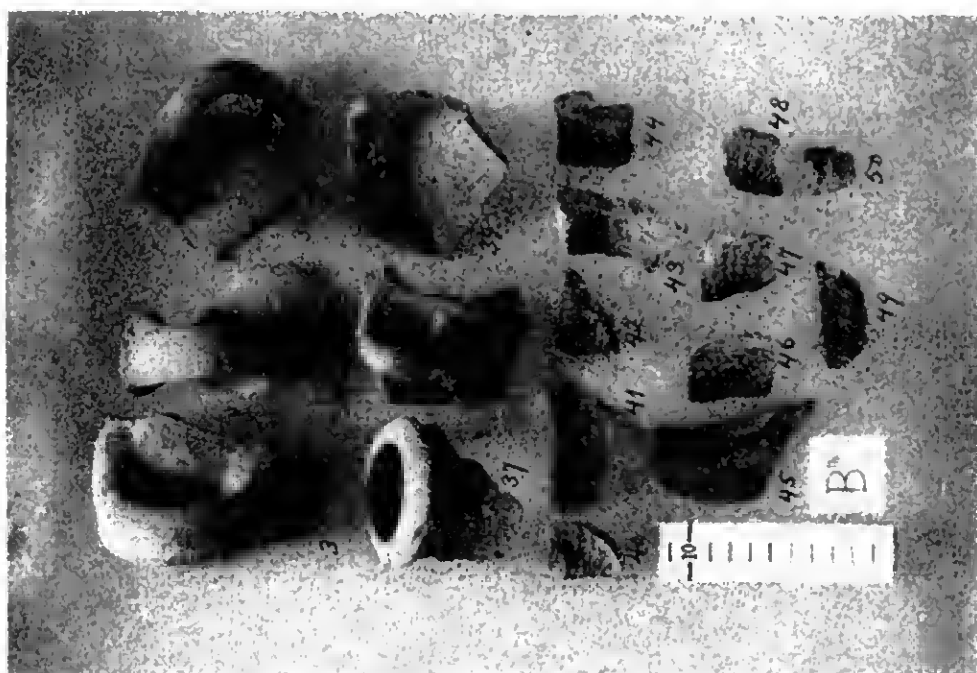


PLATE 27

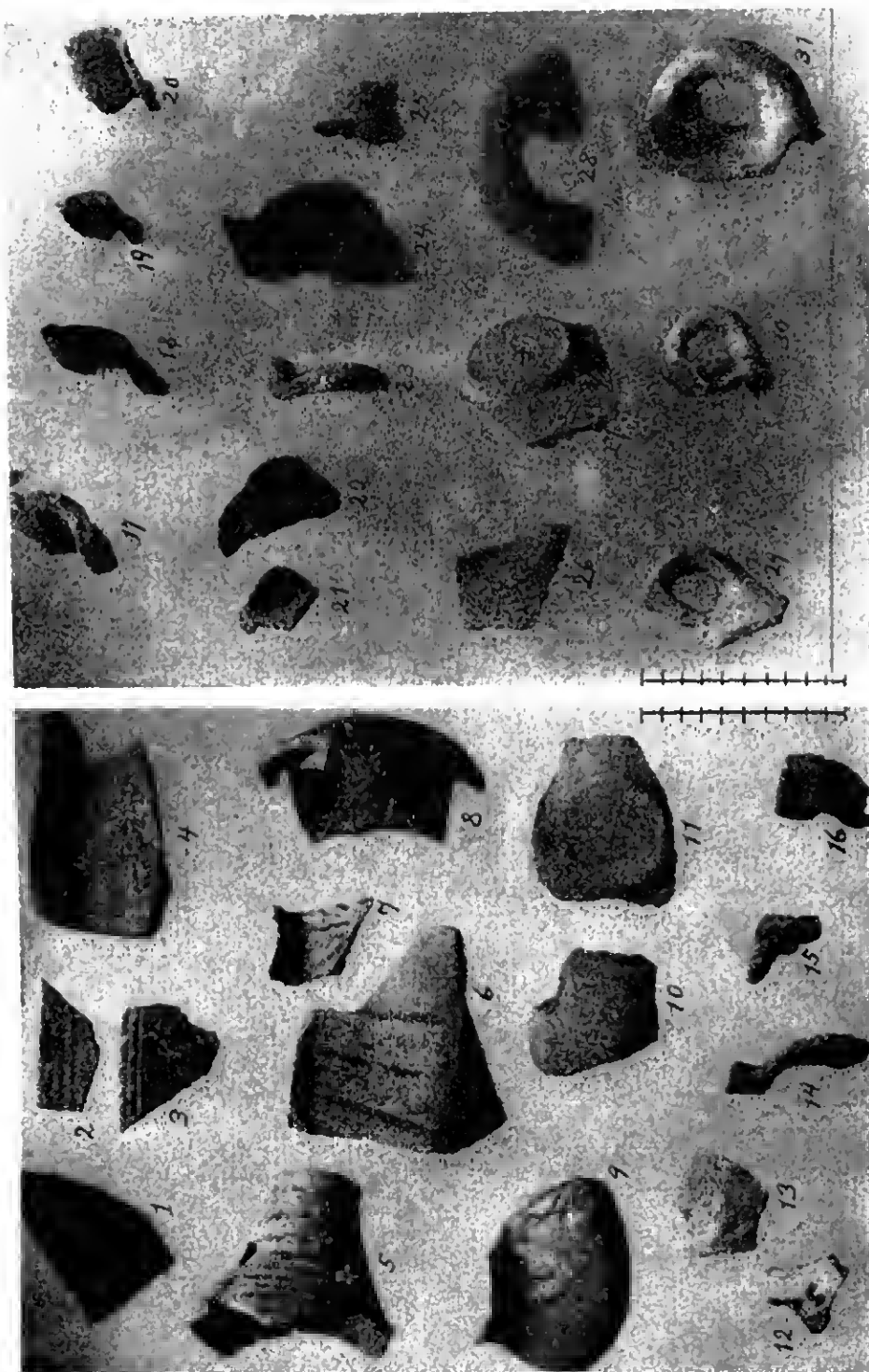
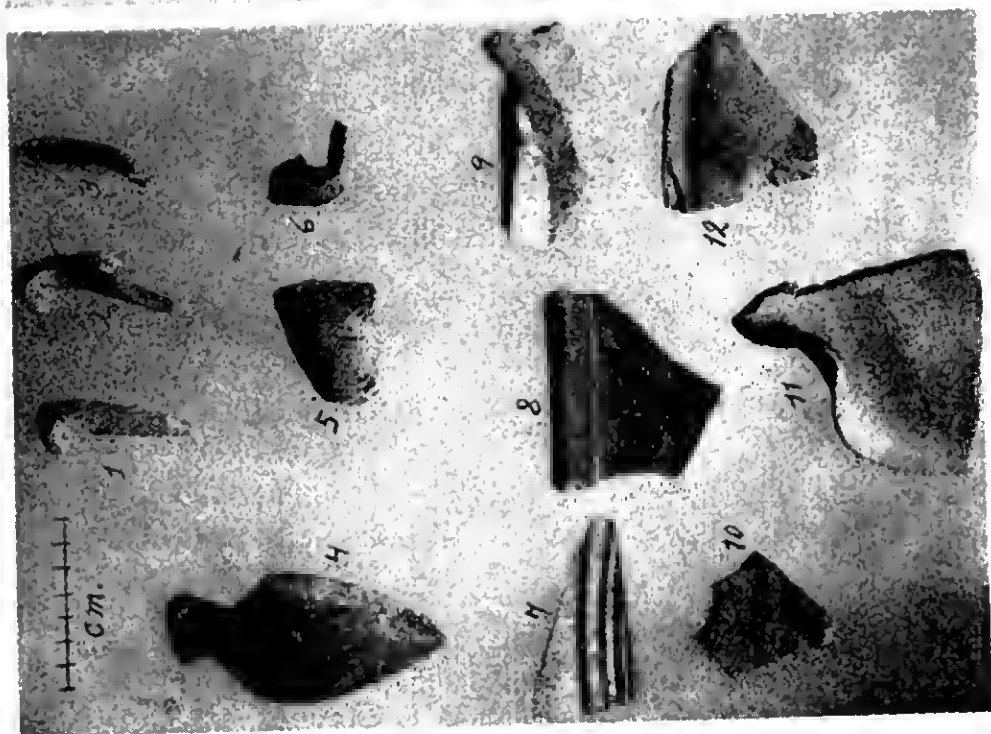


PLATE 28(B)



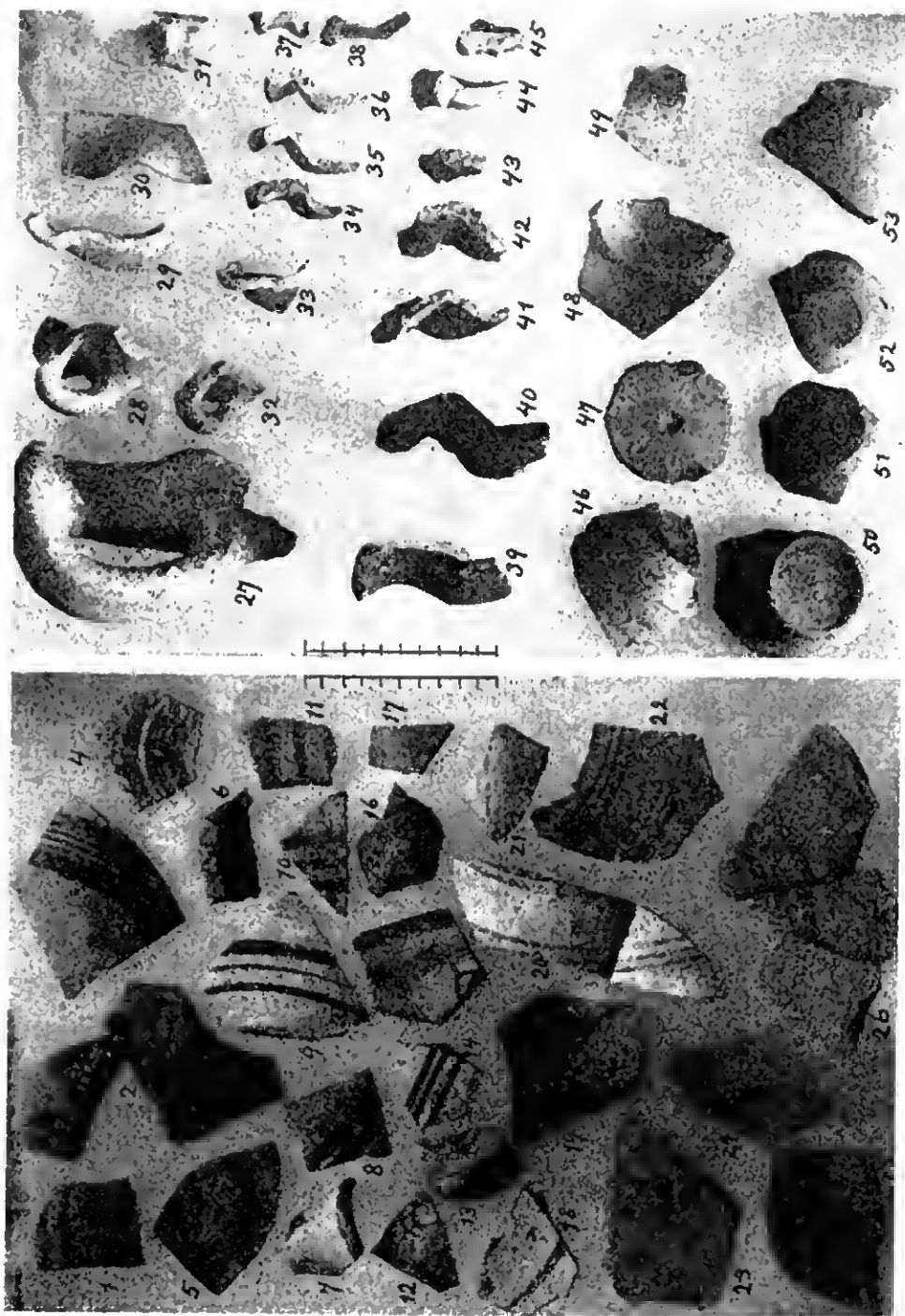


PLATE 30(B)



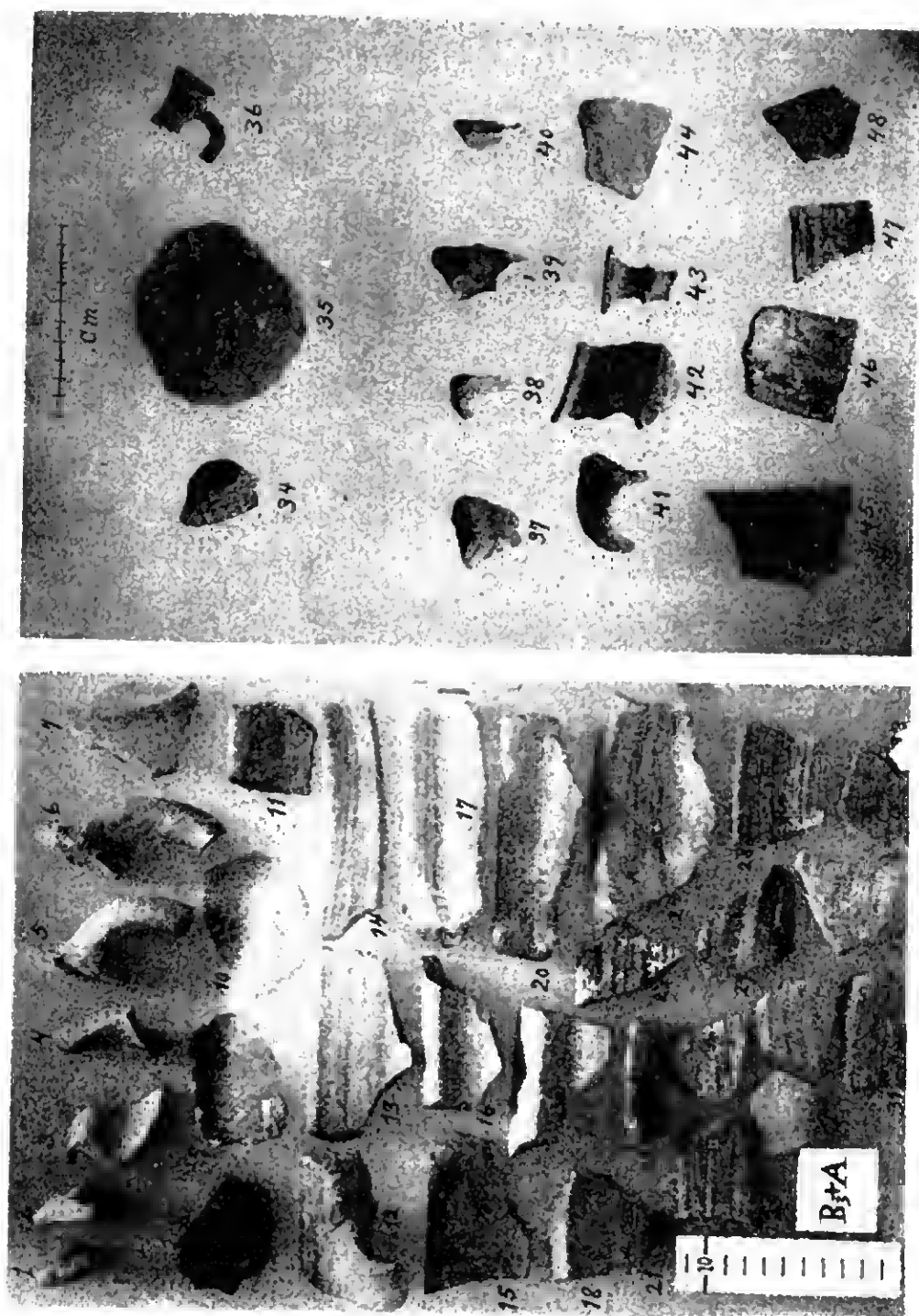


PLATE 31



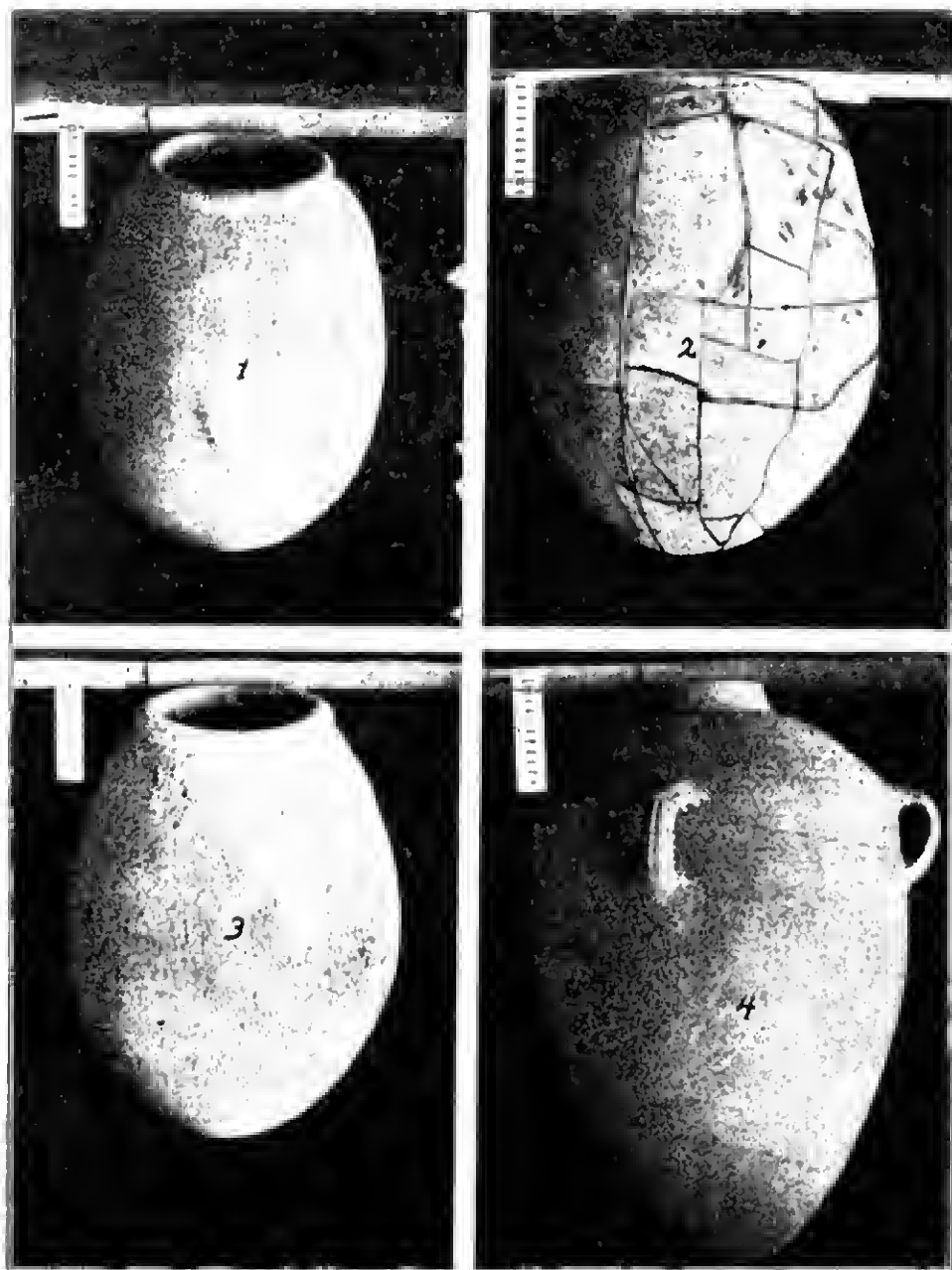


PLATE 32(A)

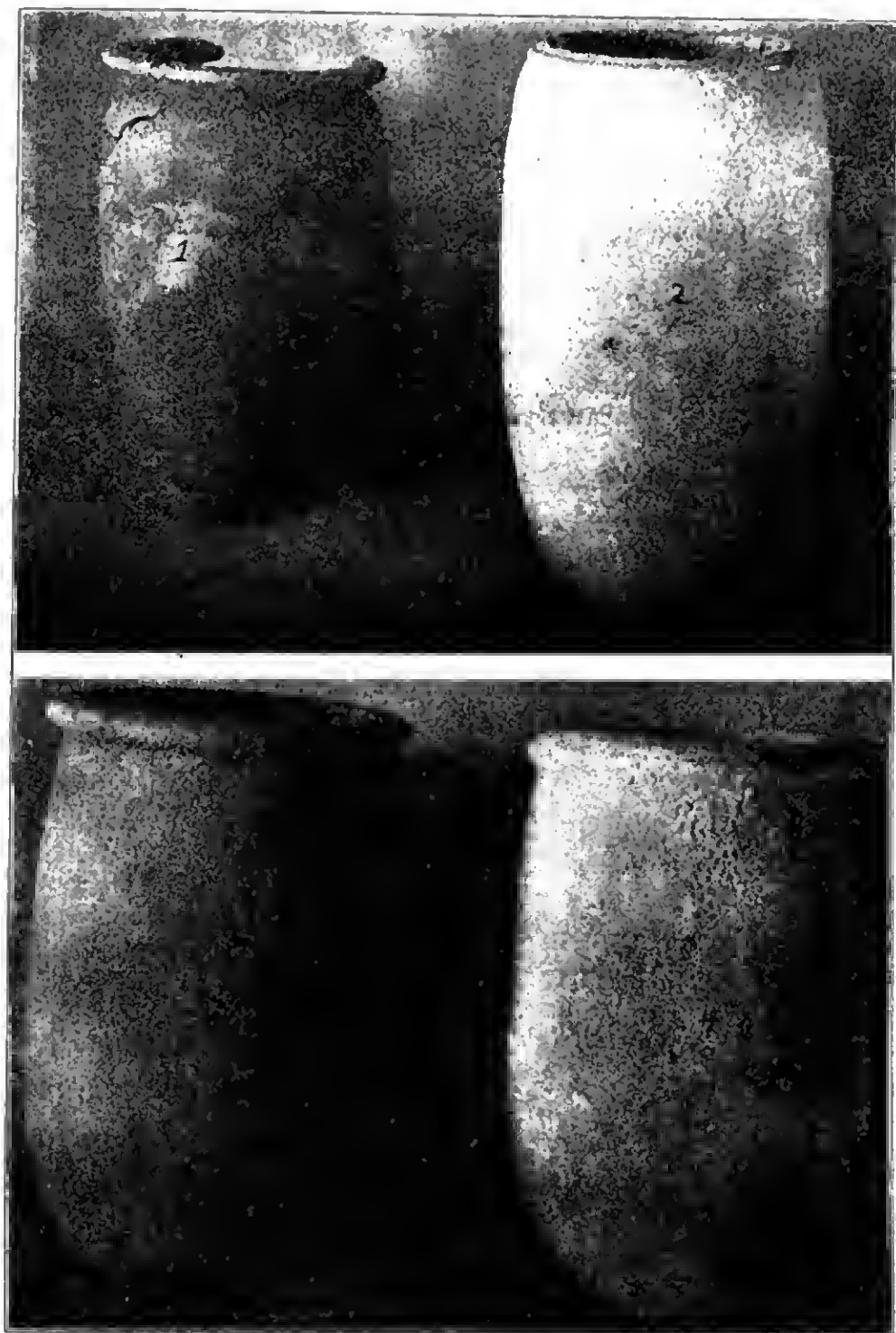


PLATE 33(A)

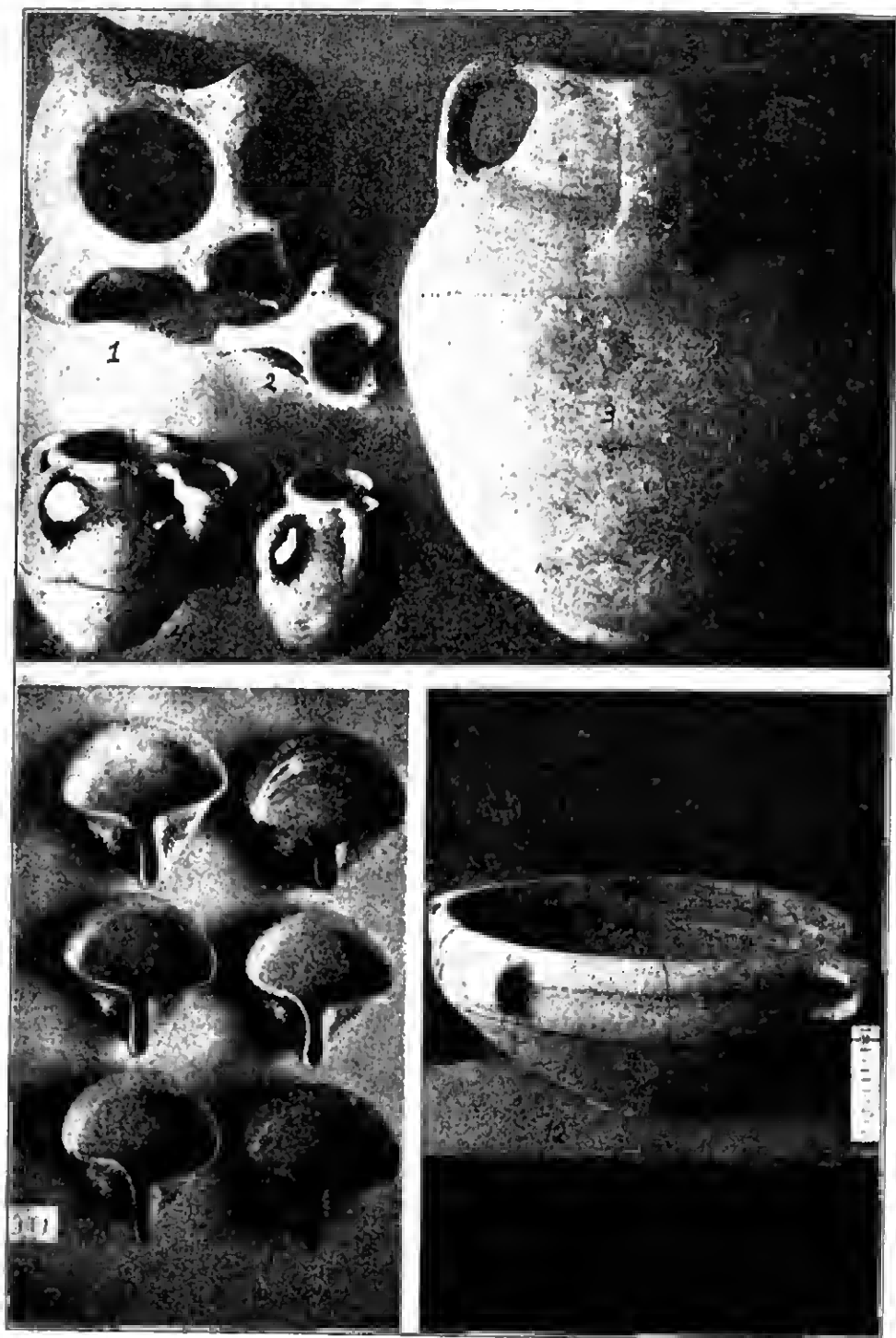


PLATE 34(A)

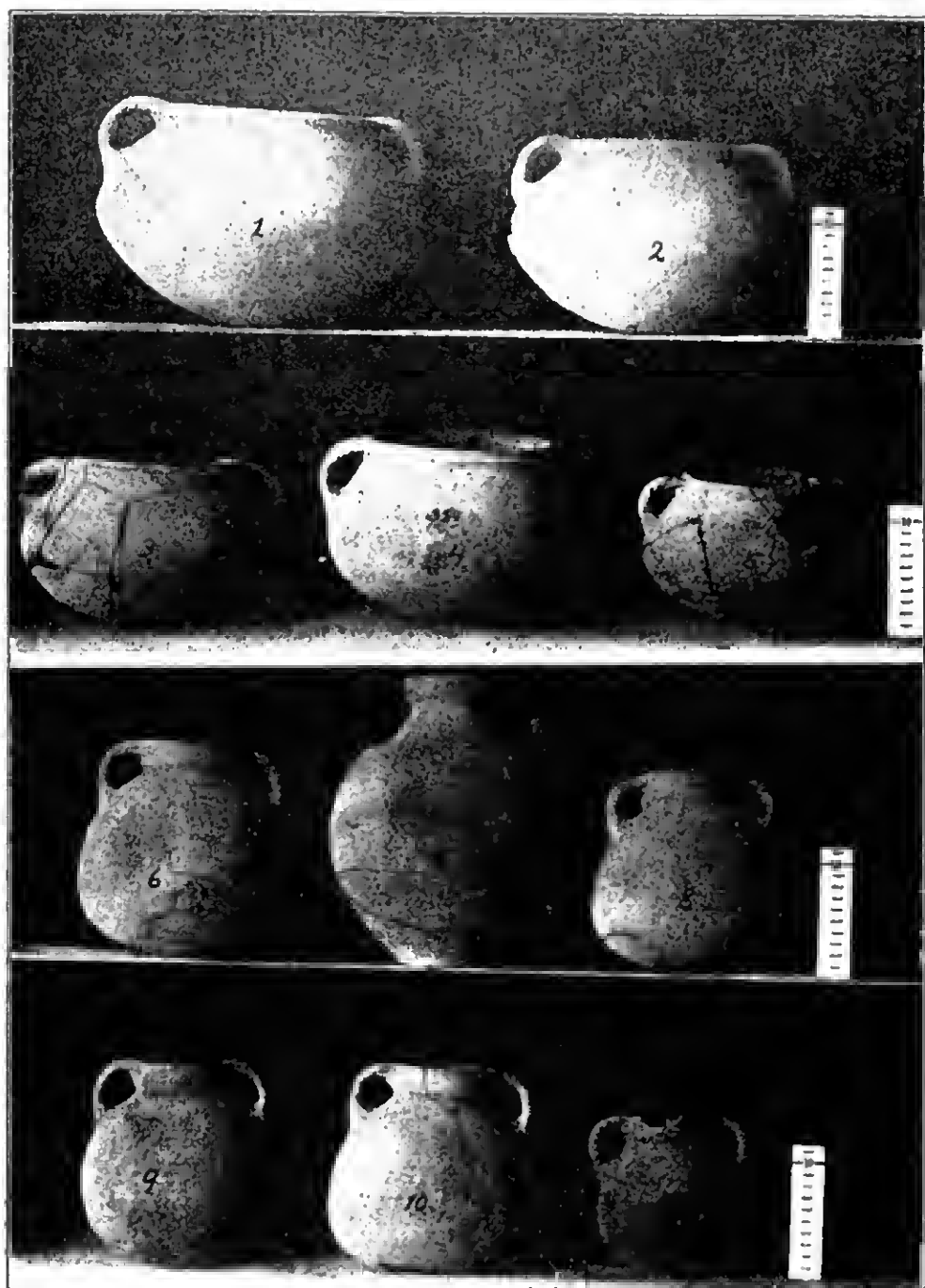


PLATE 35(A)

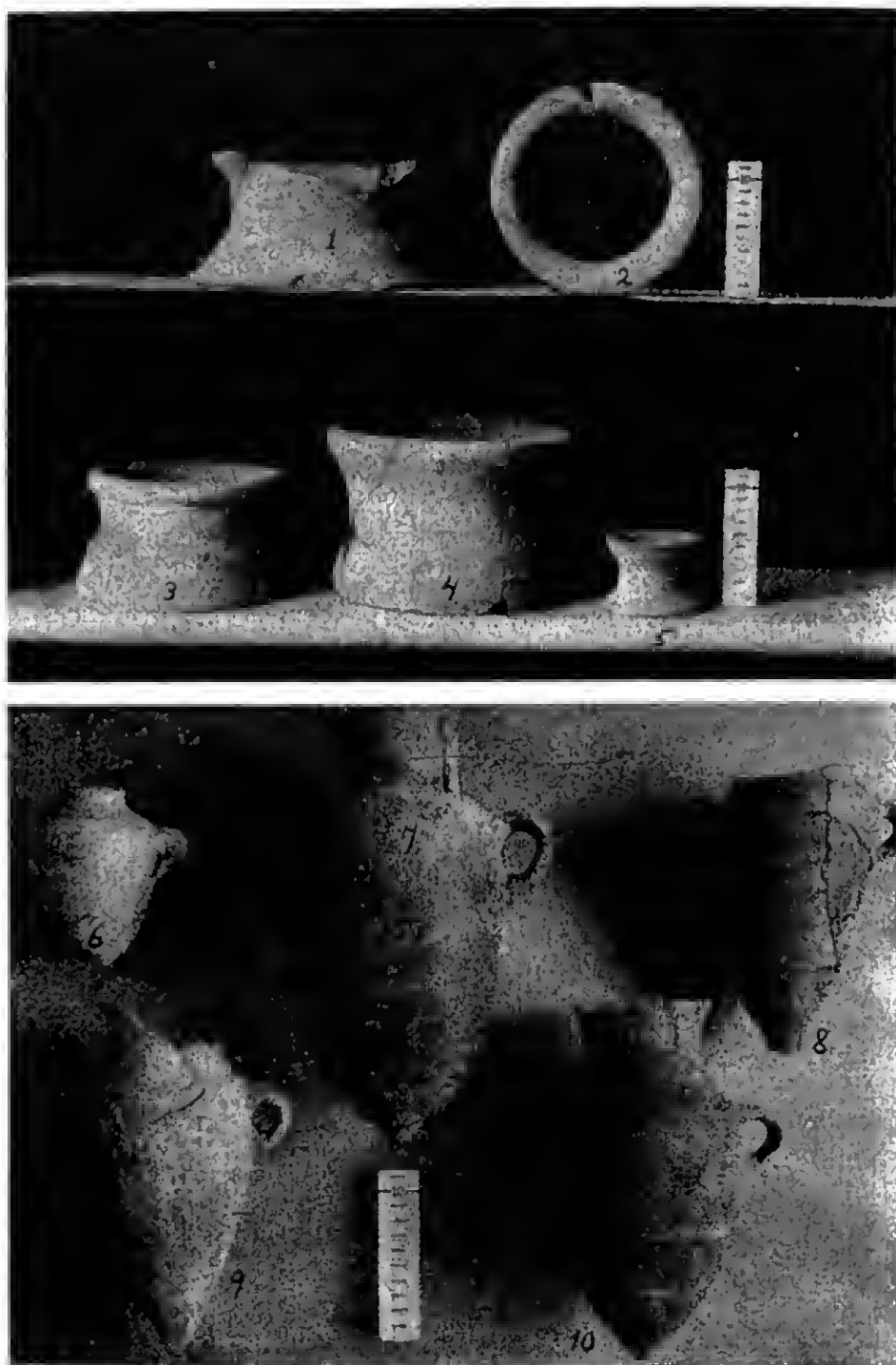


PLATE 36(A)

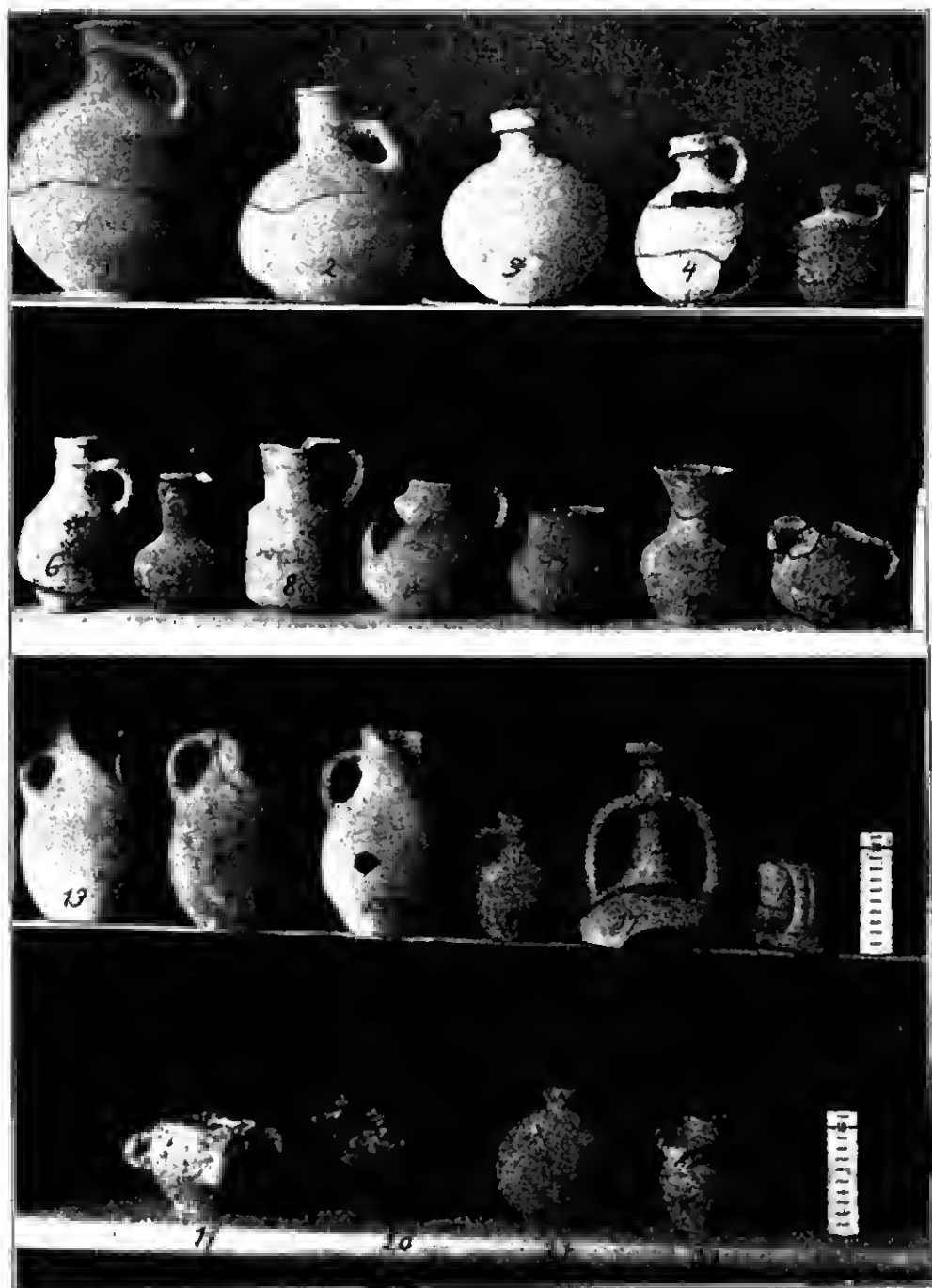


PLATE 37(A)

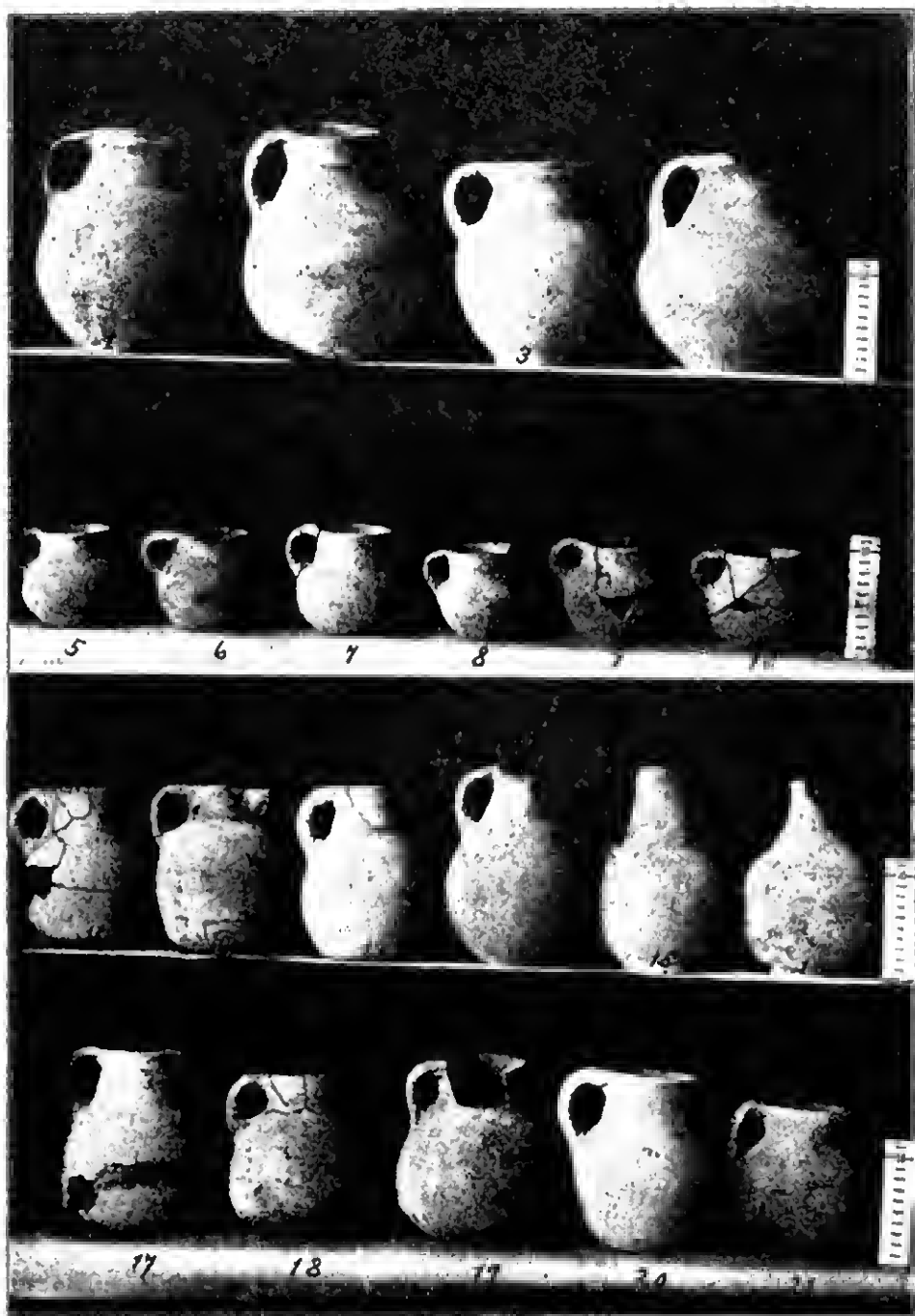


PLATE 38(A)

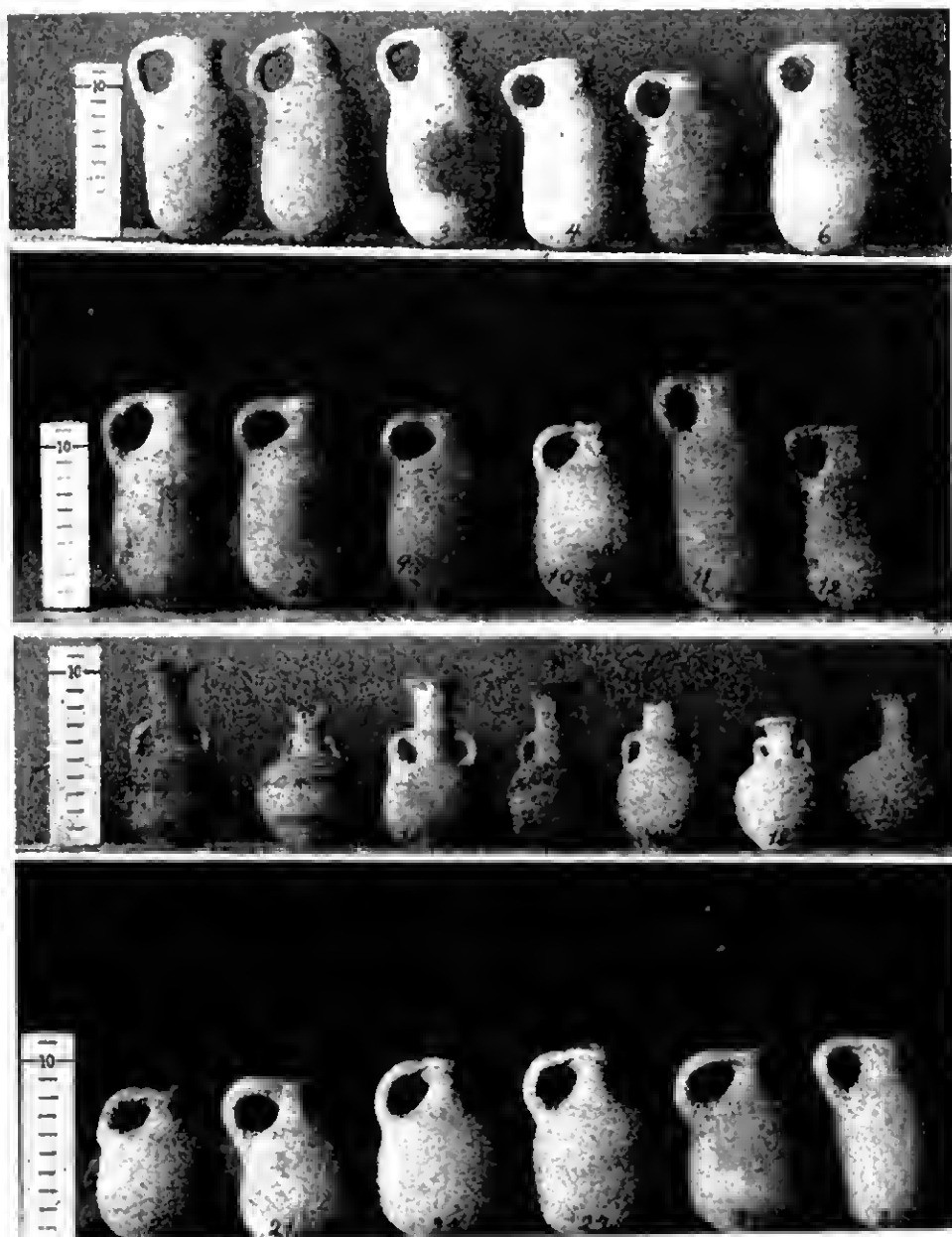


PLATE 39(A)





PLATE 40

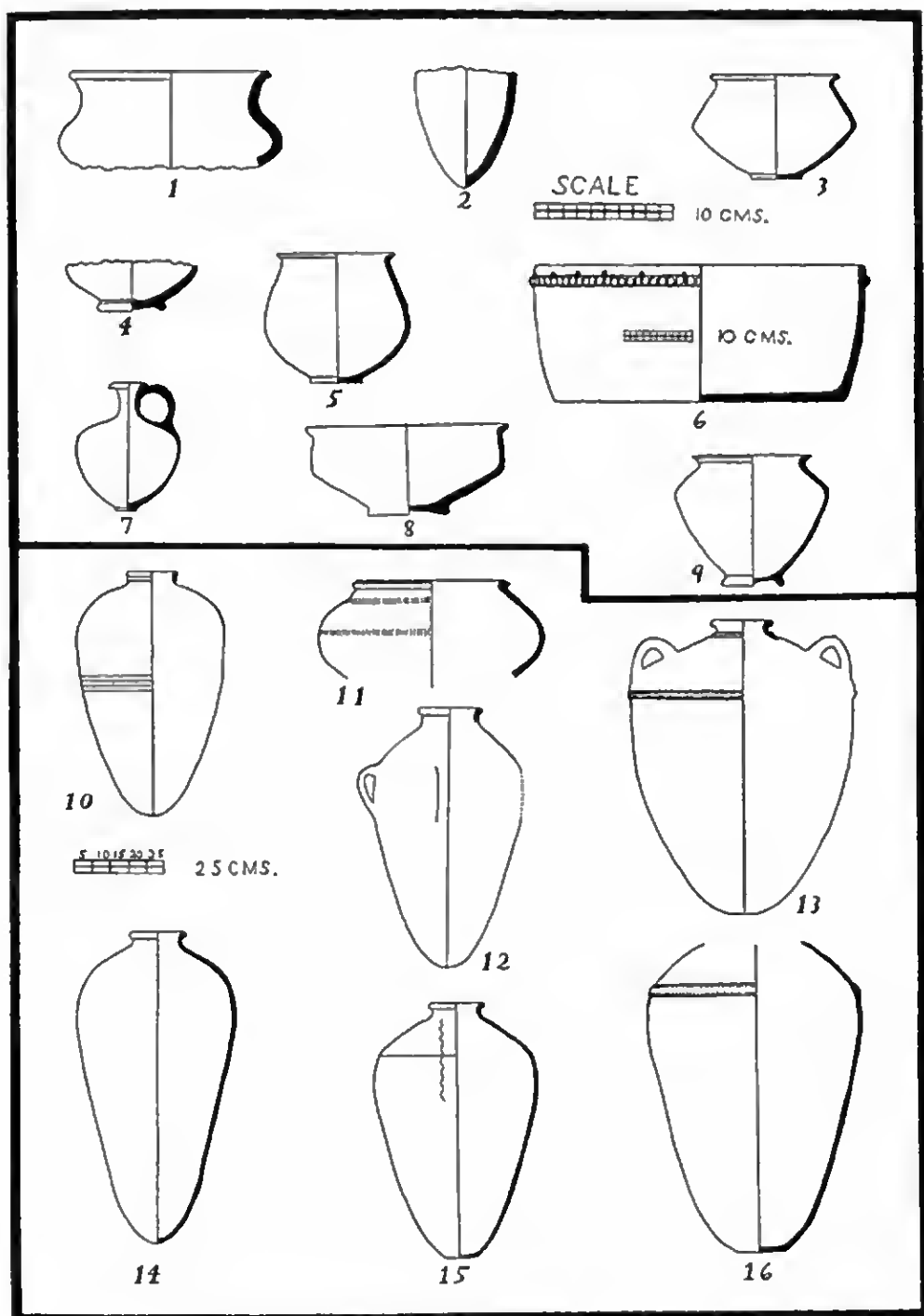


PLATE 41

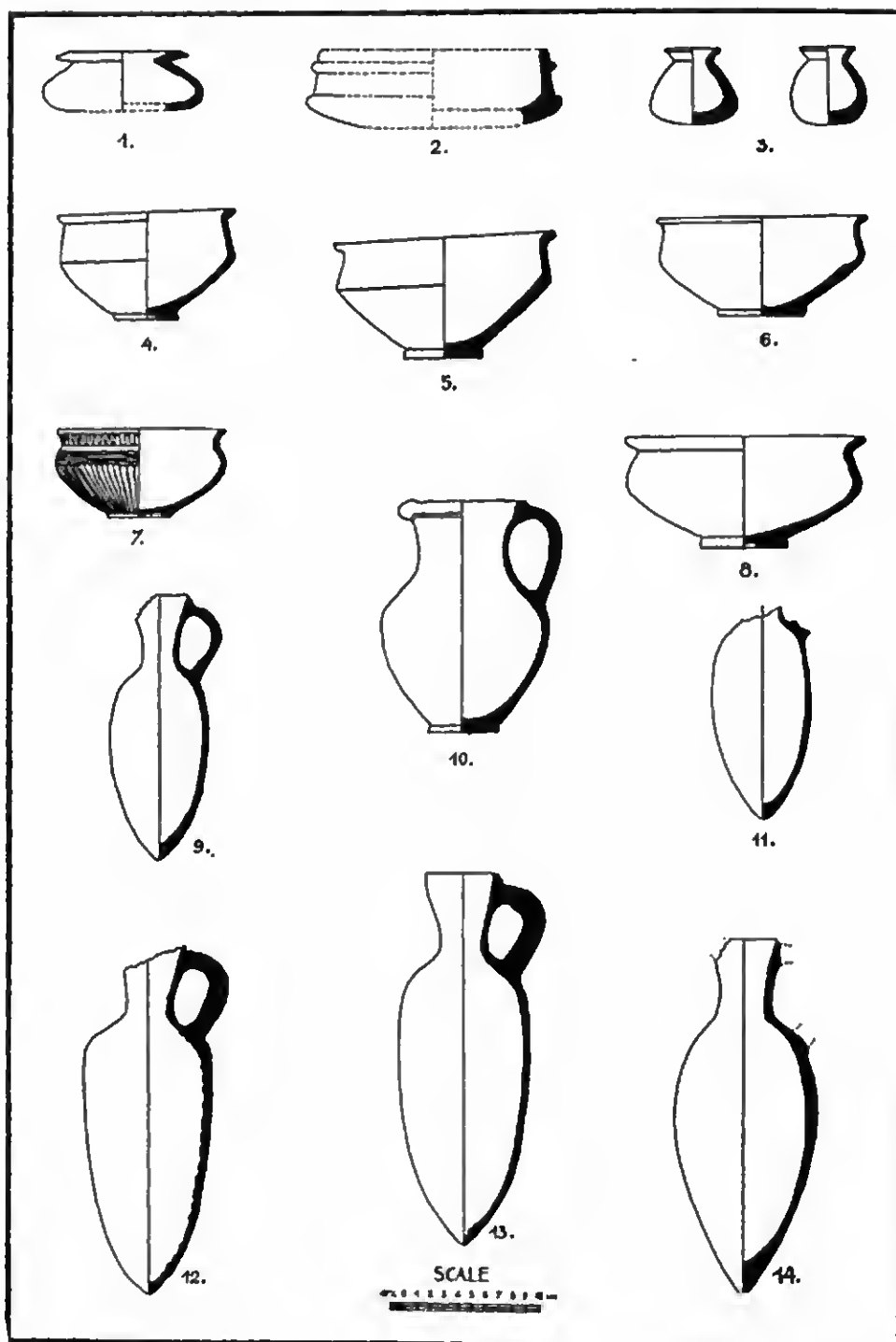
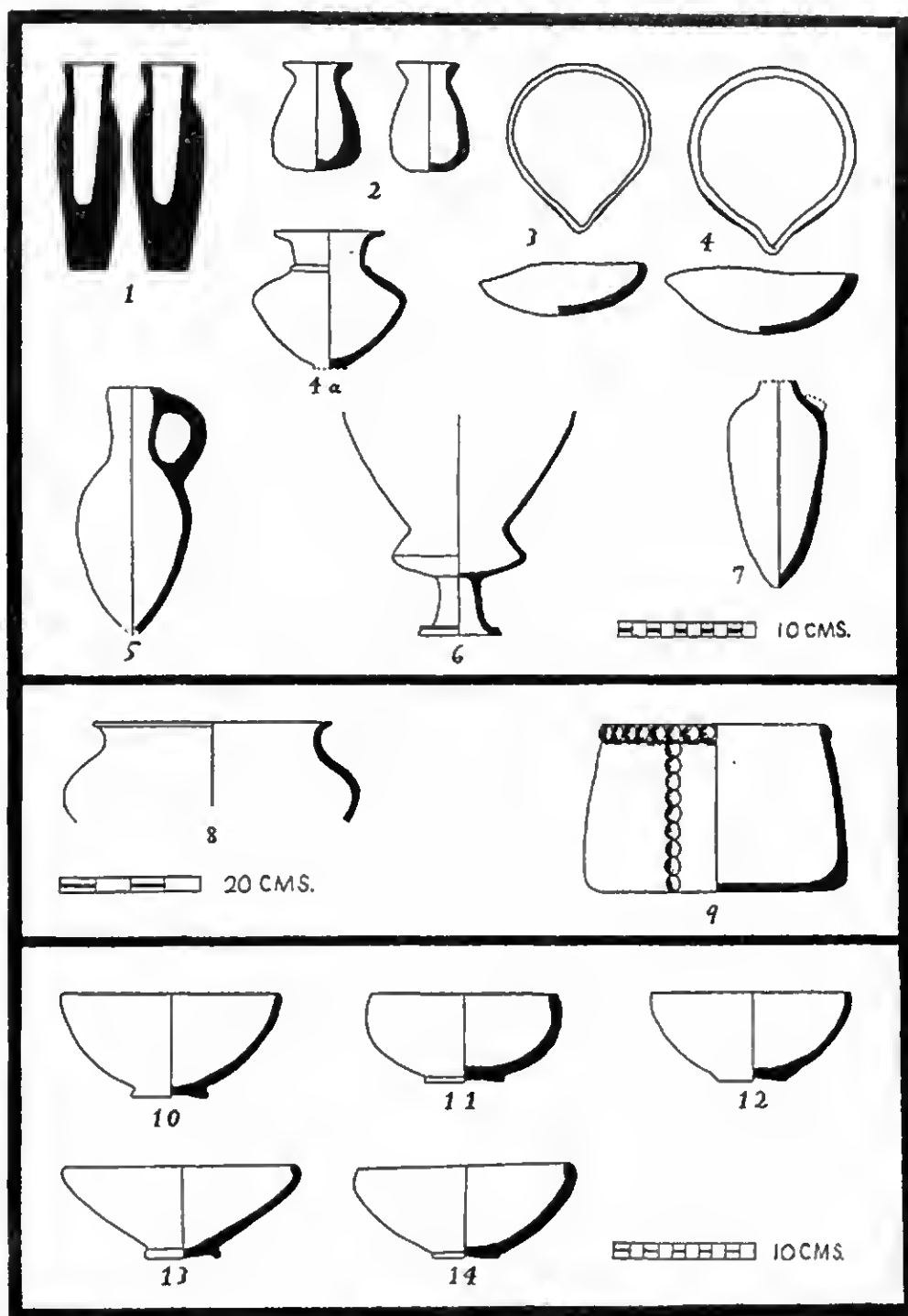


PLATE 42(D)



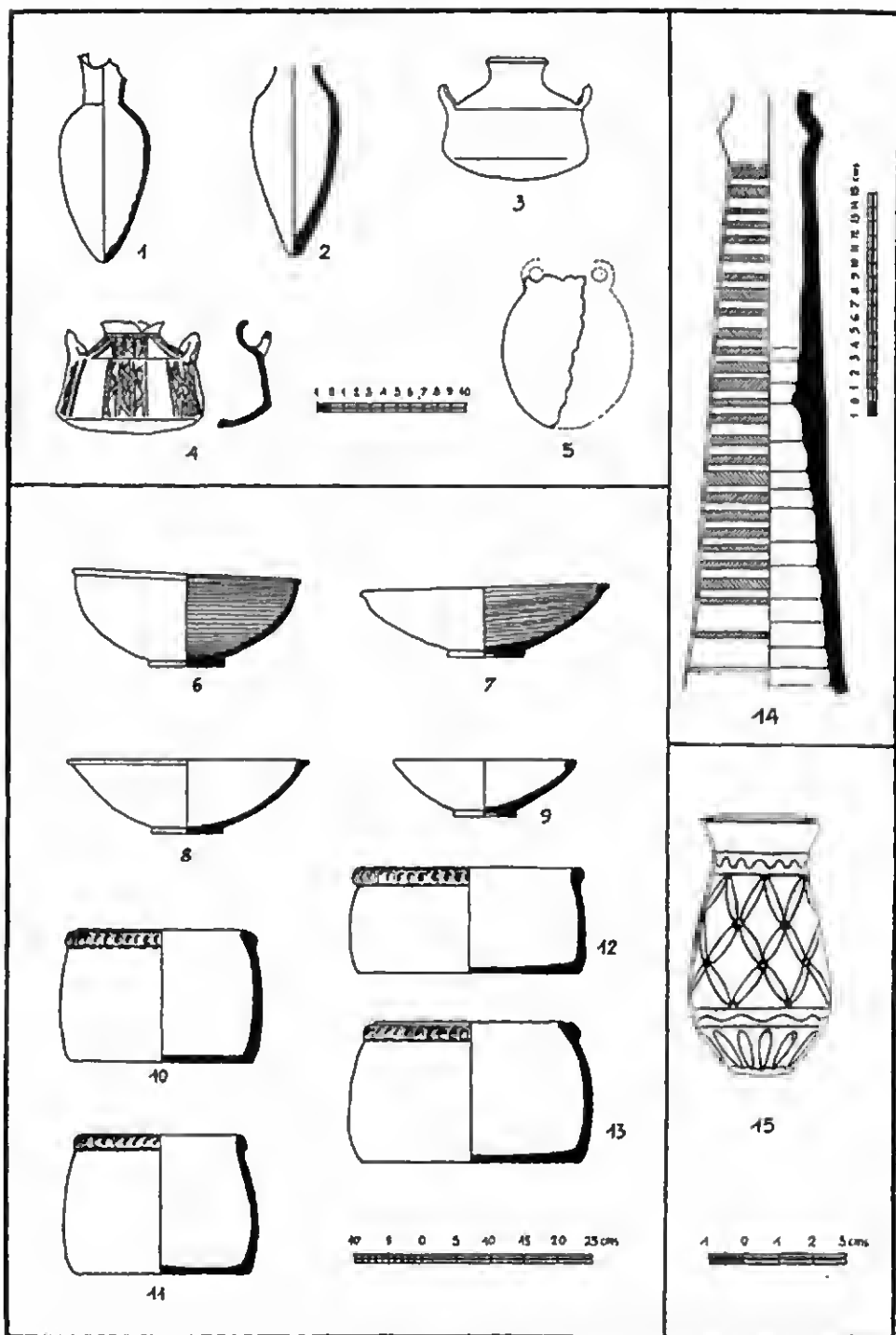


PLATE 44

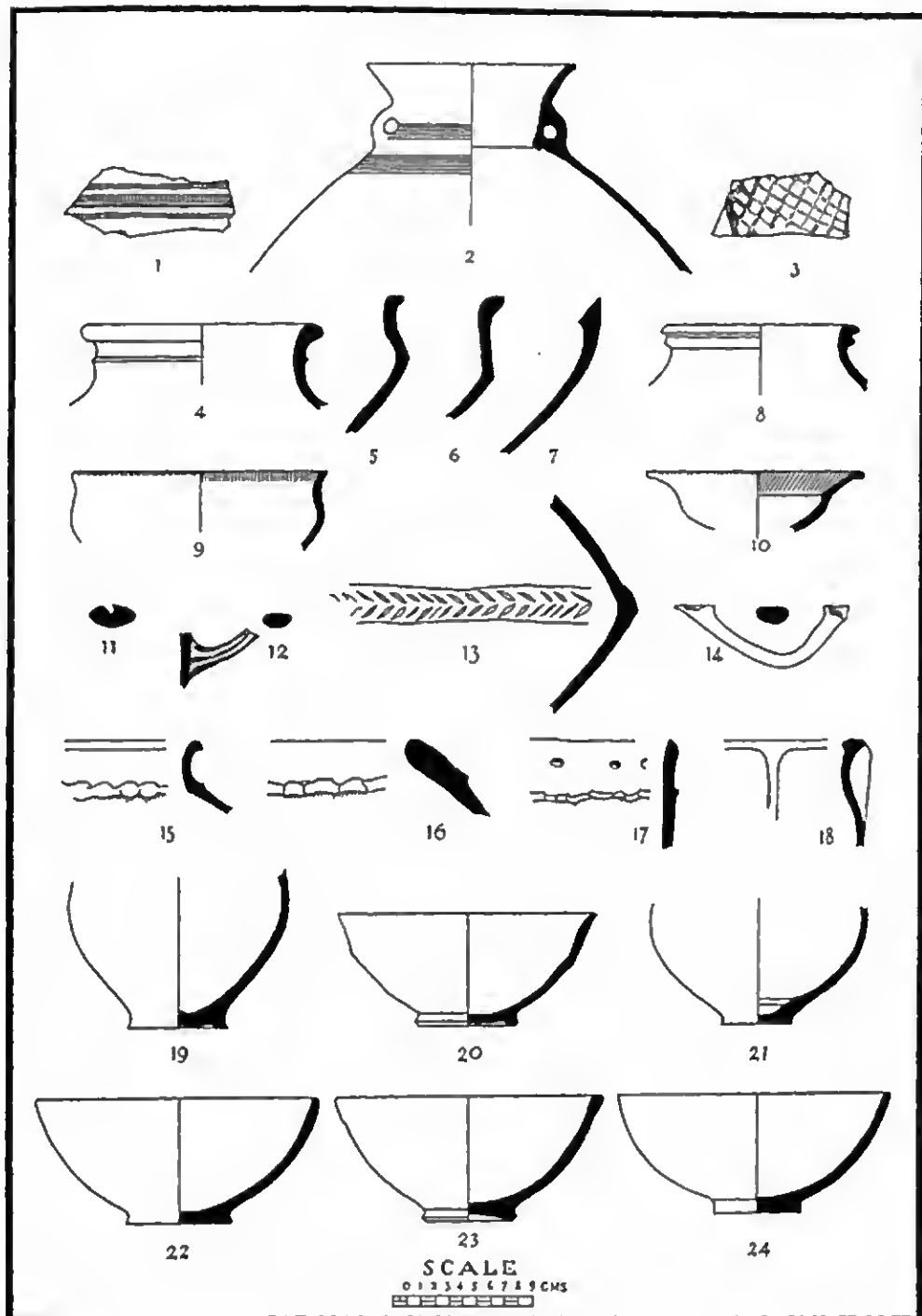


PLATE 45

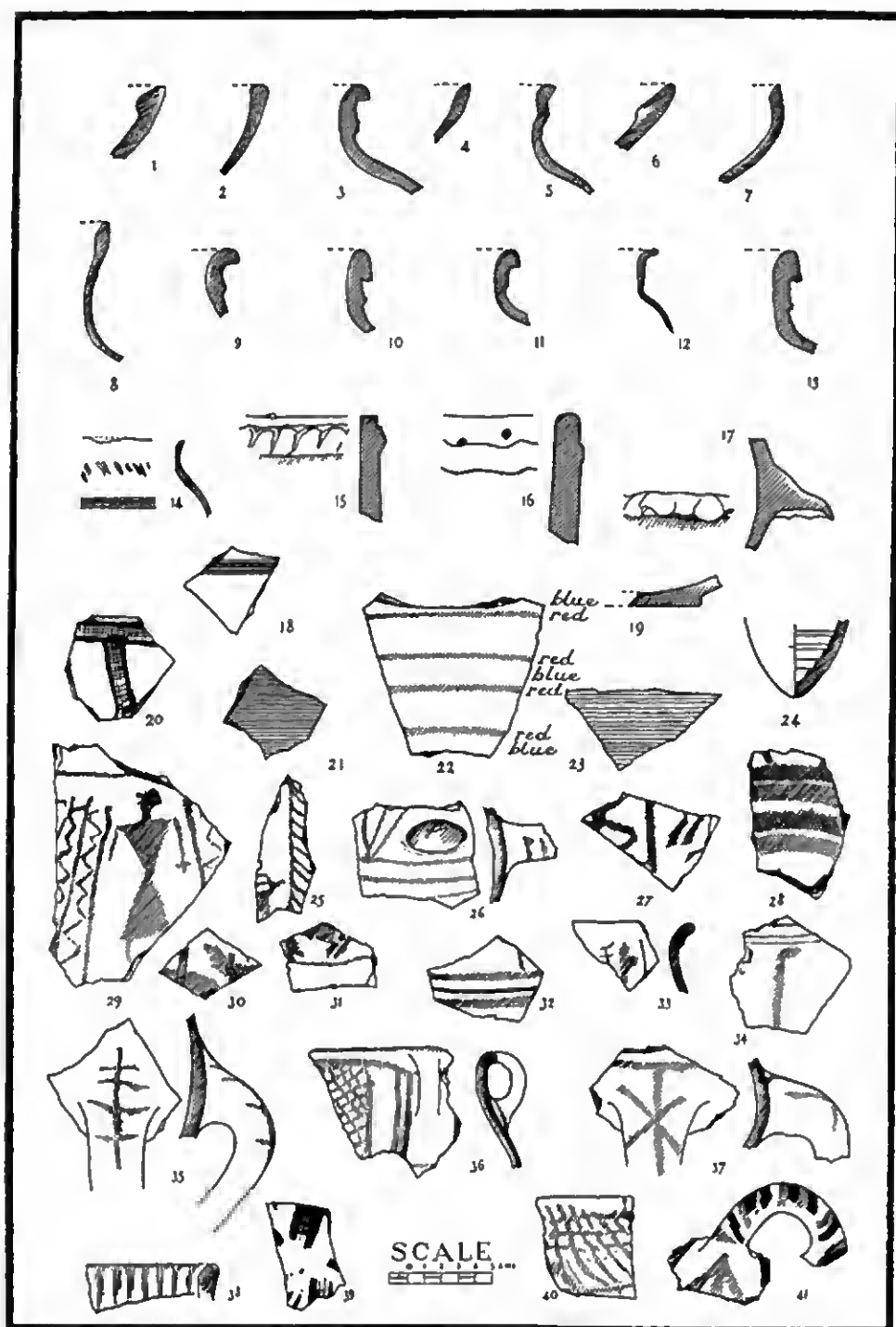


PLATE 46

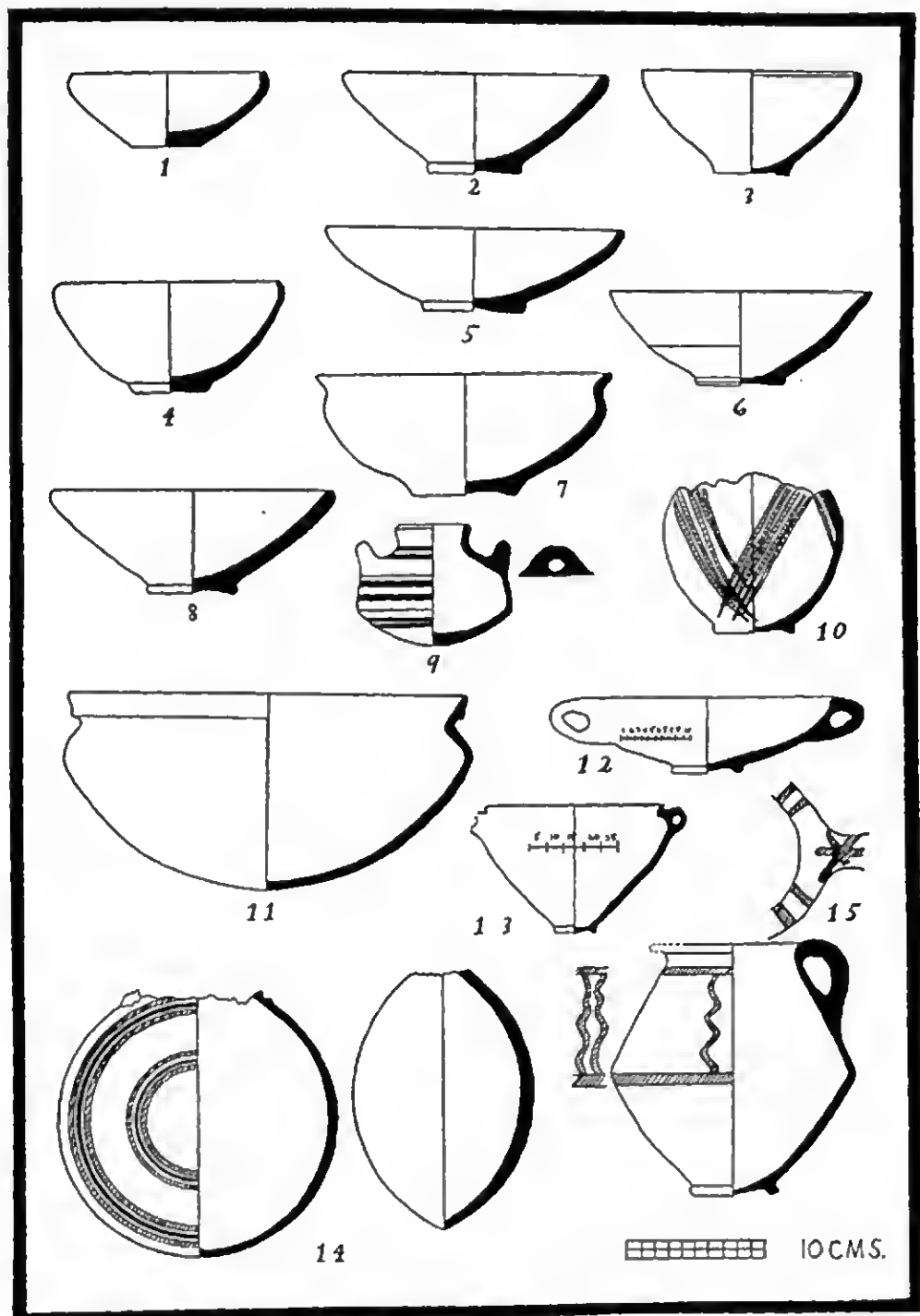


PLATE 47(C)



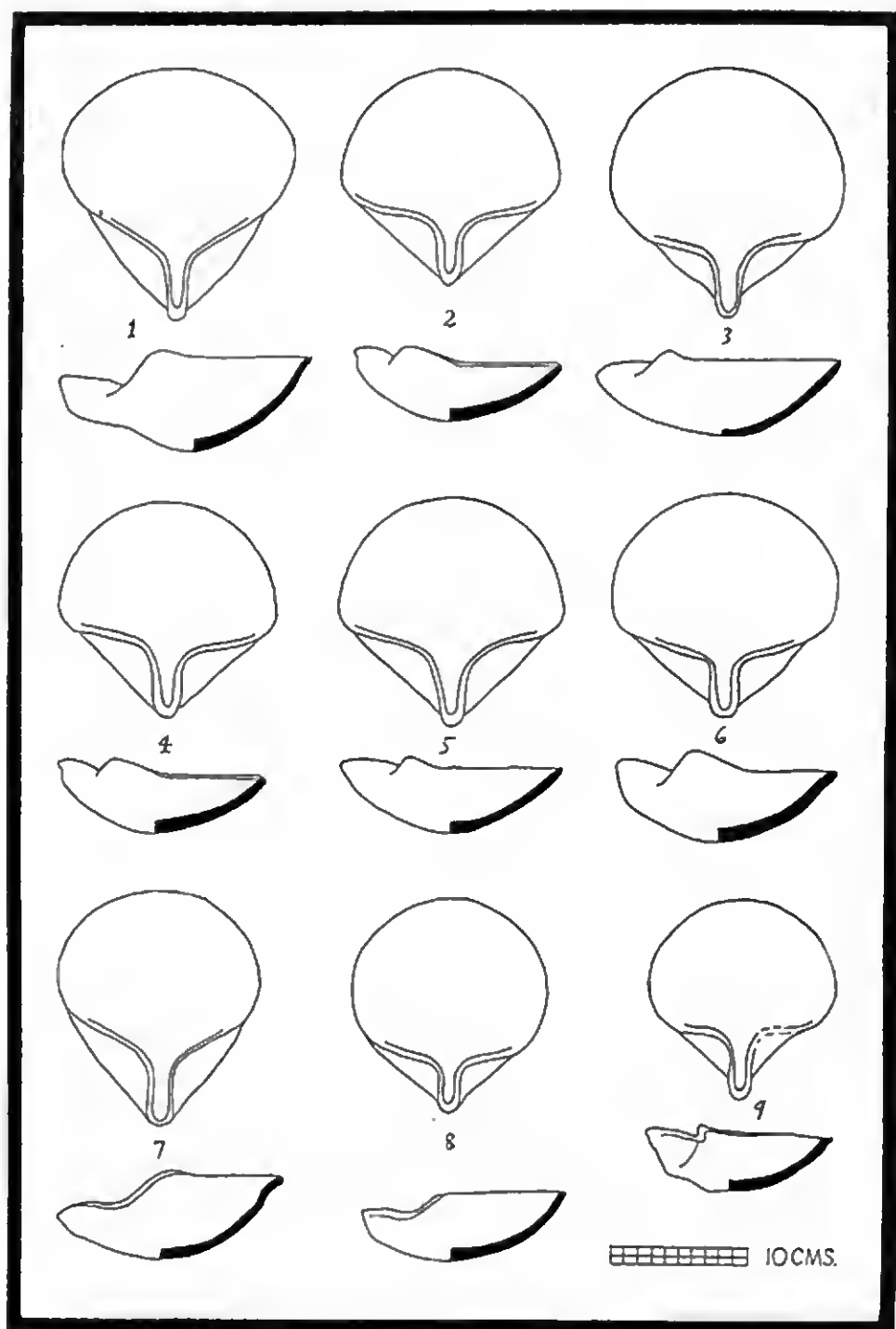


PLATE 48(C)

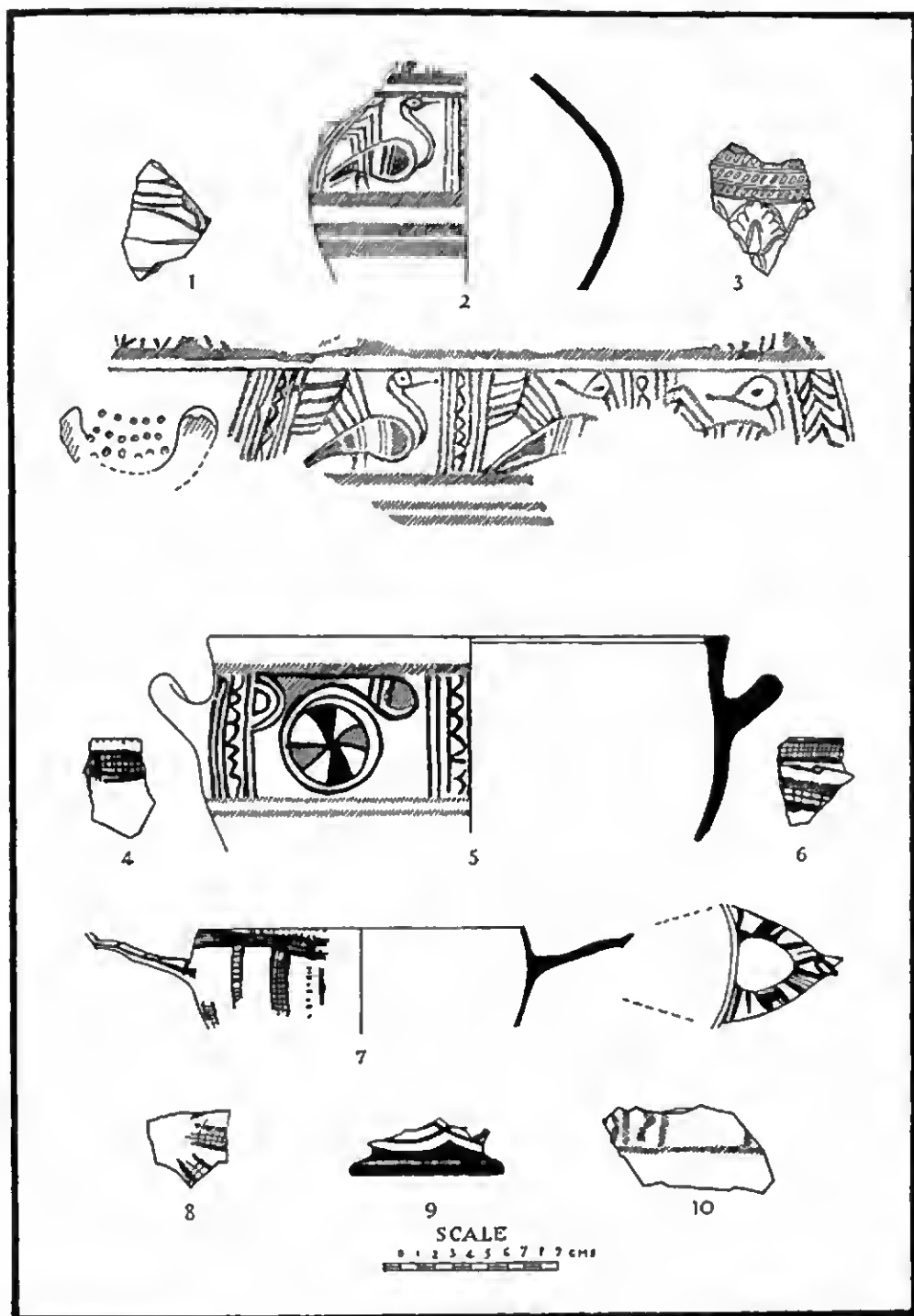
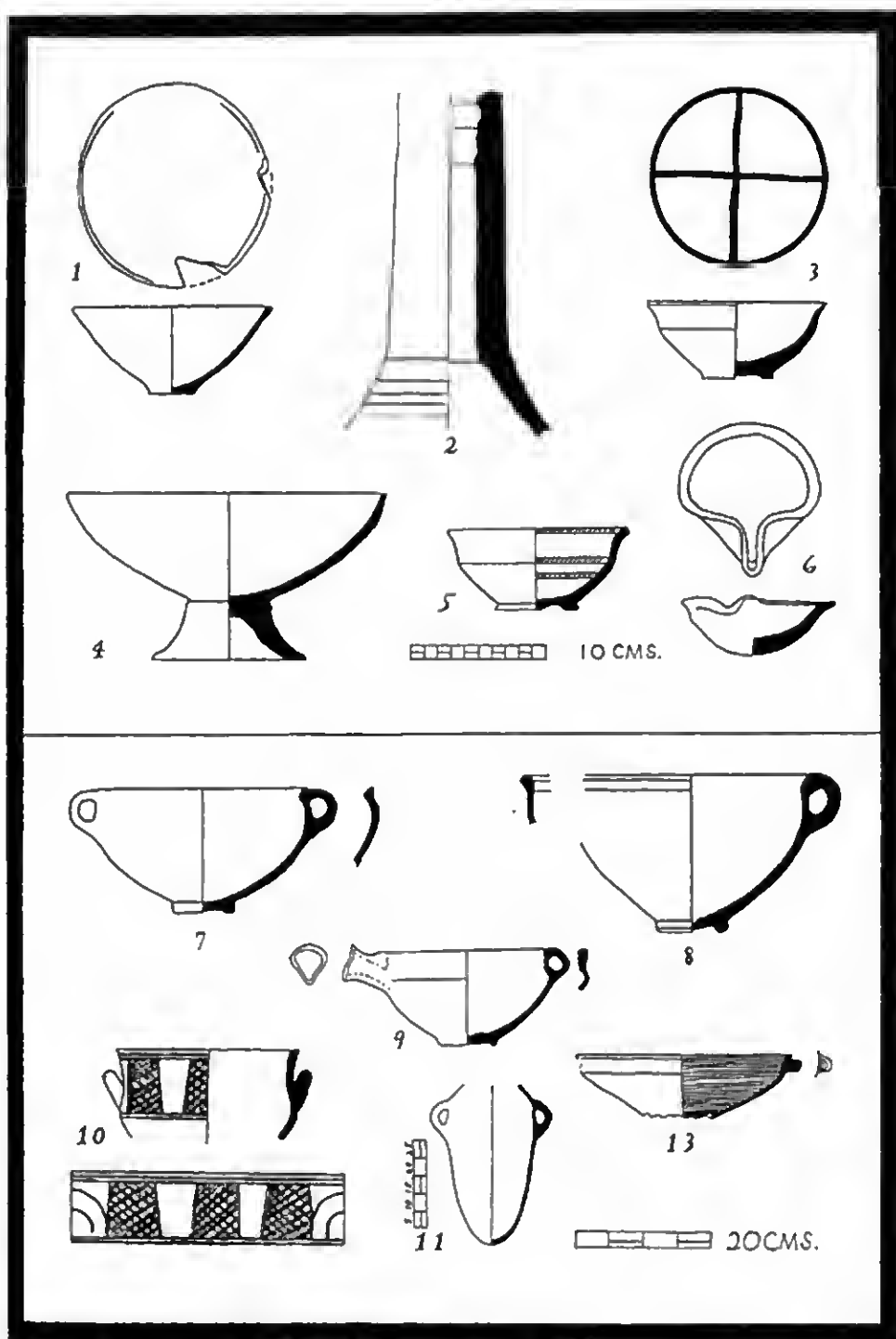


PLATE 49



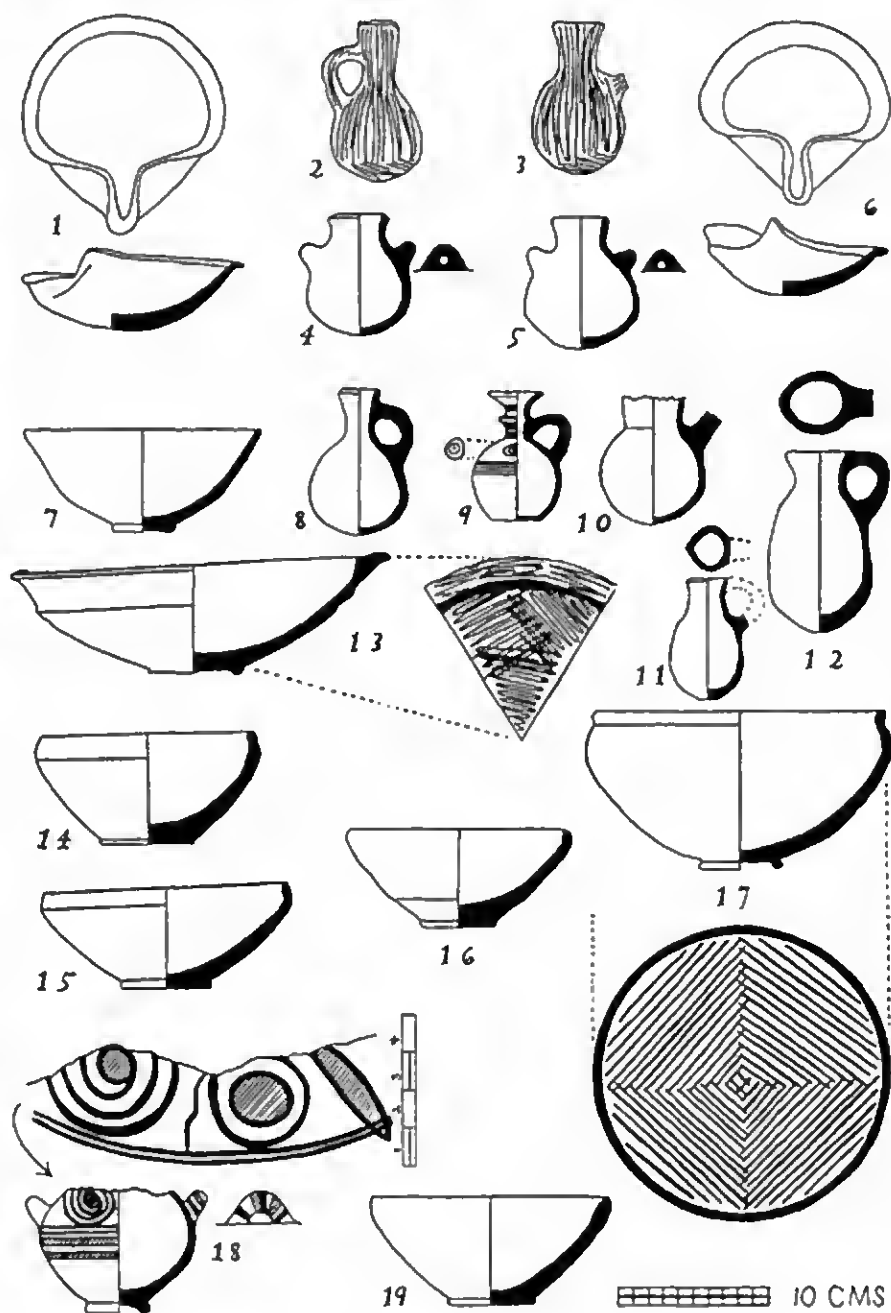


PLATE 51(B)

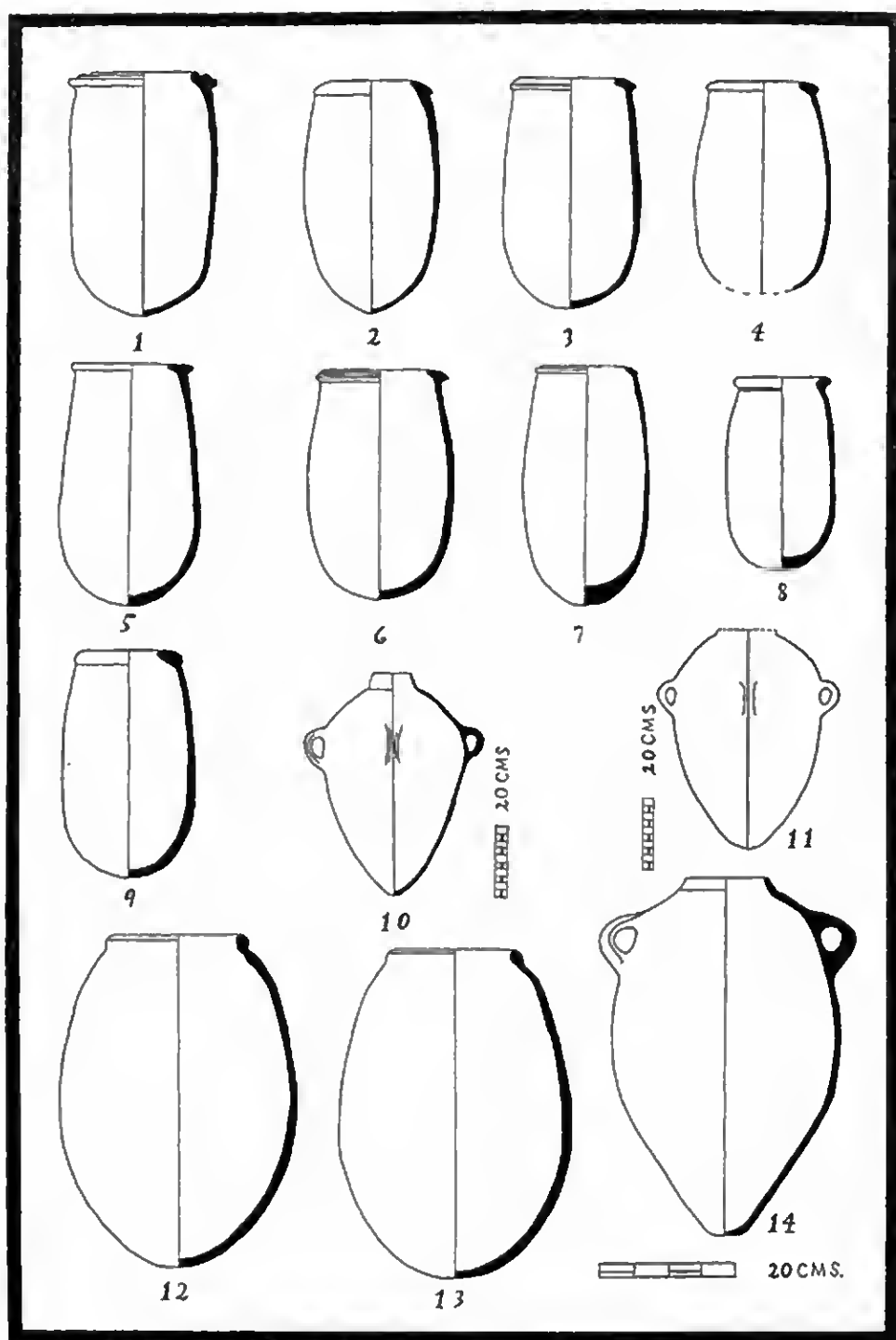


PLATE 52(A)

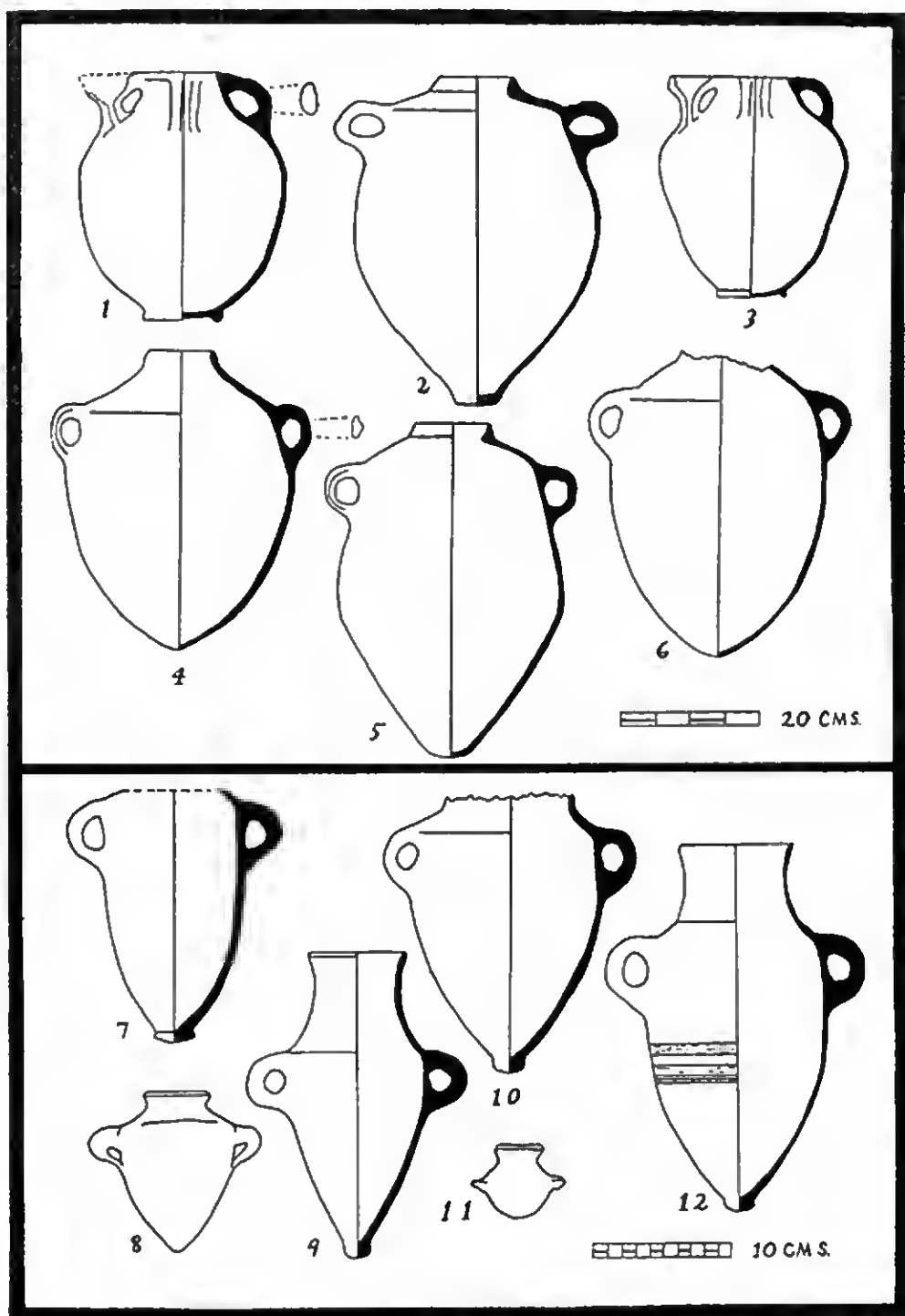


PLATE 53(A)

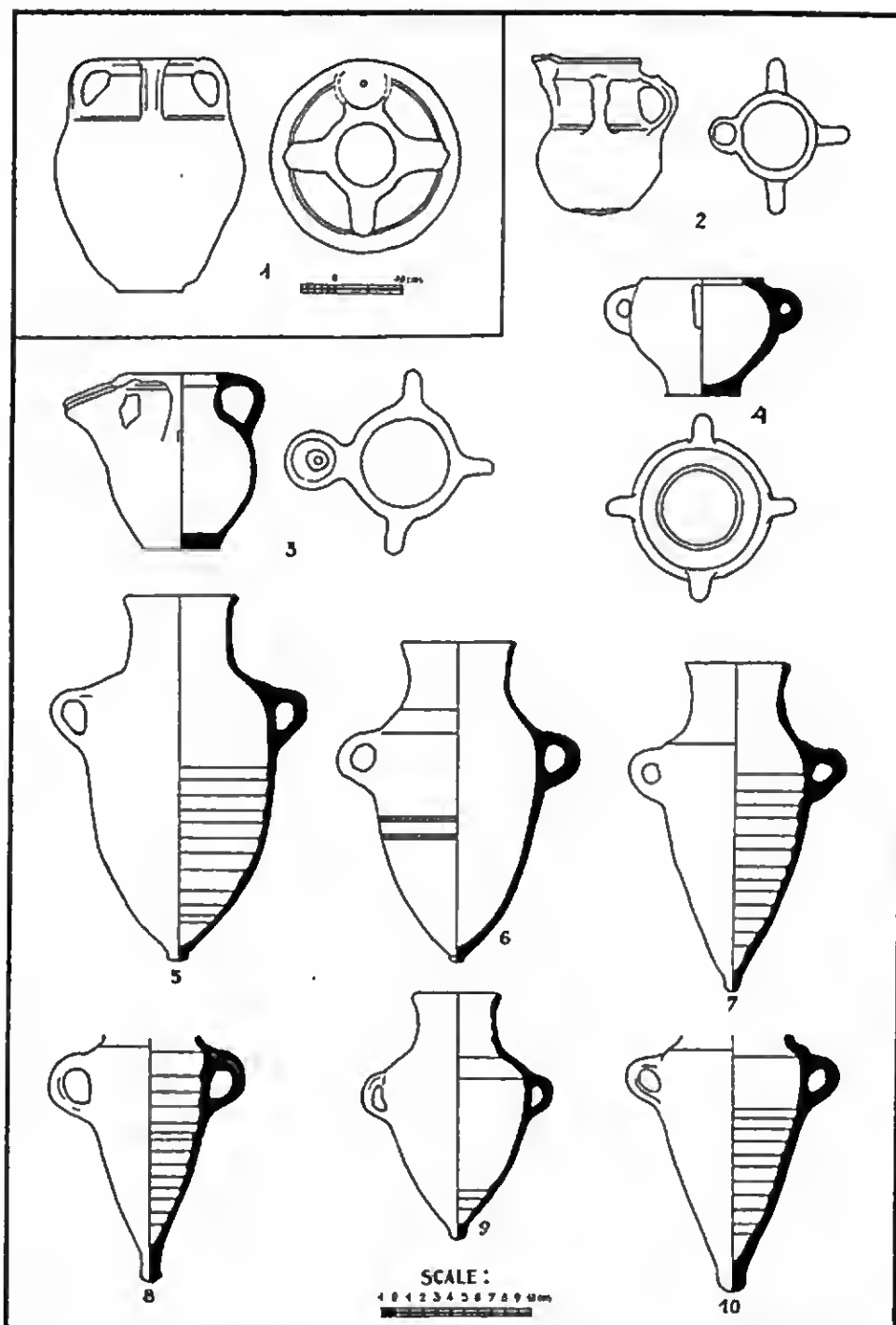


PLATE 54(A)

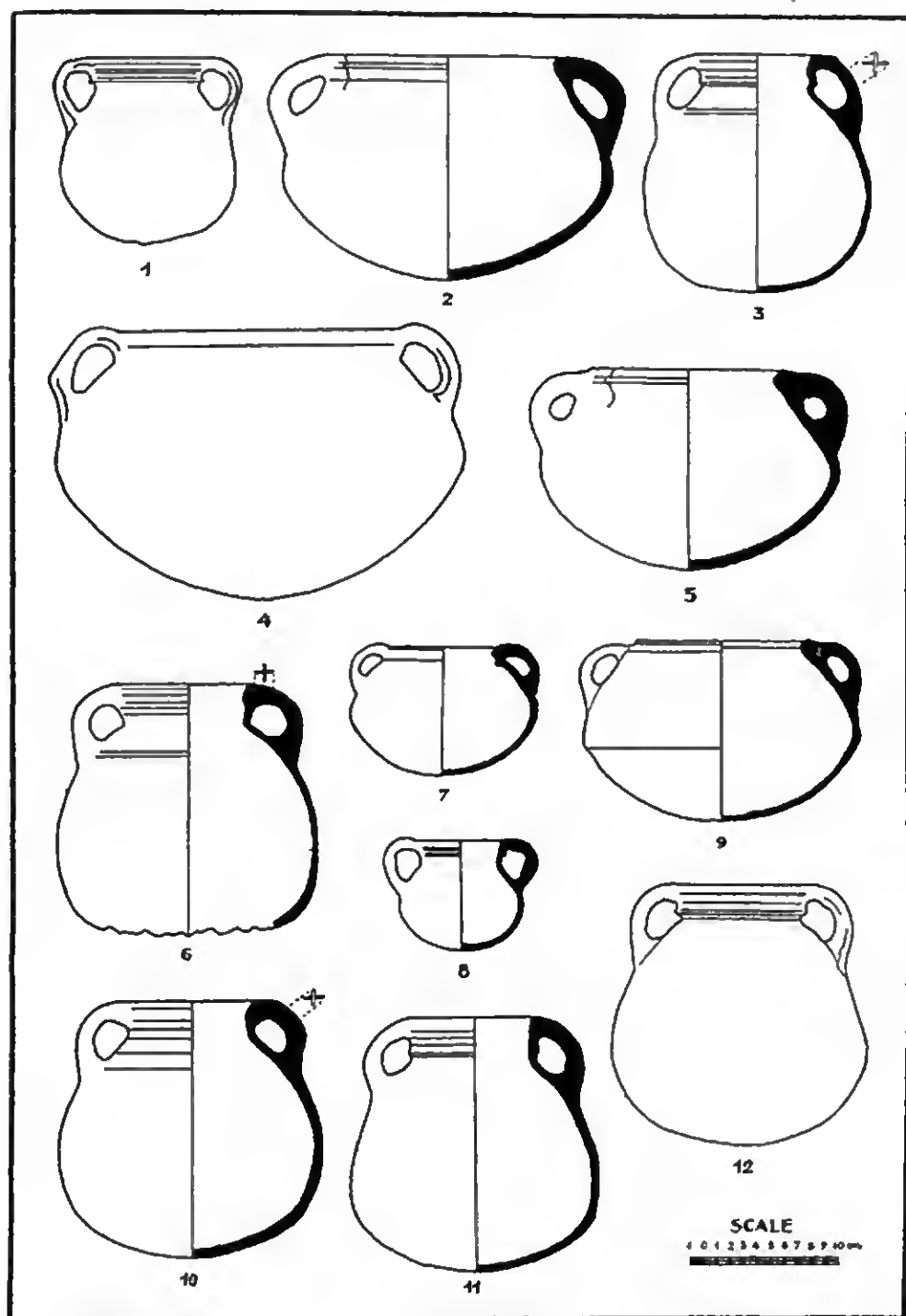


PLATE 55(A)



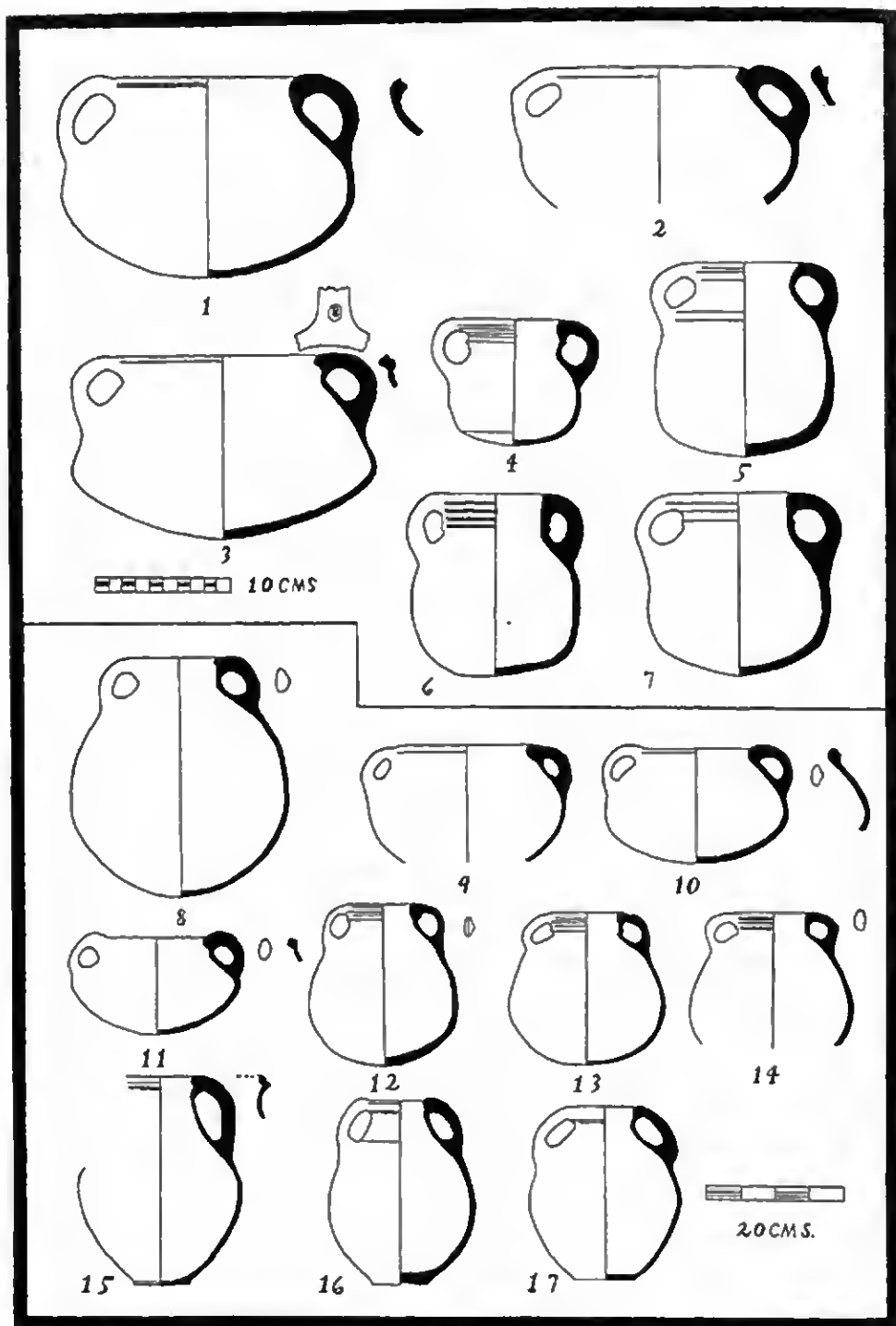


PLATE 56(A)

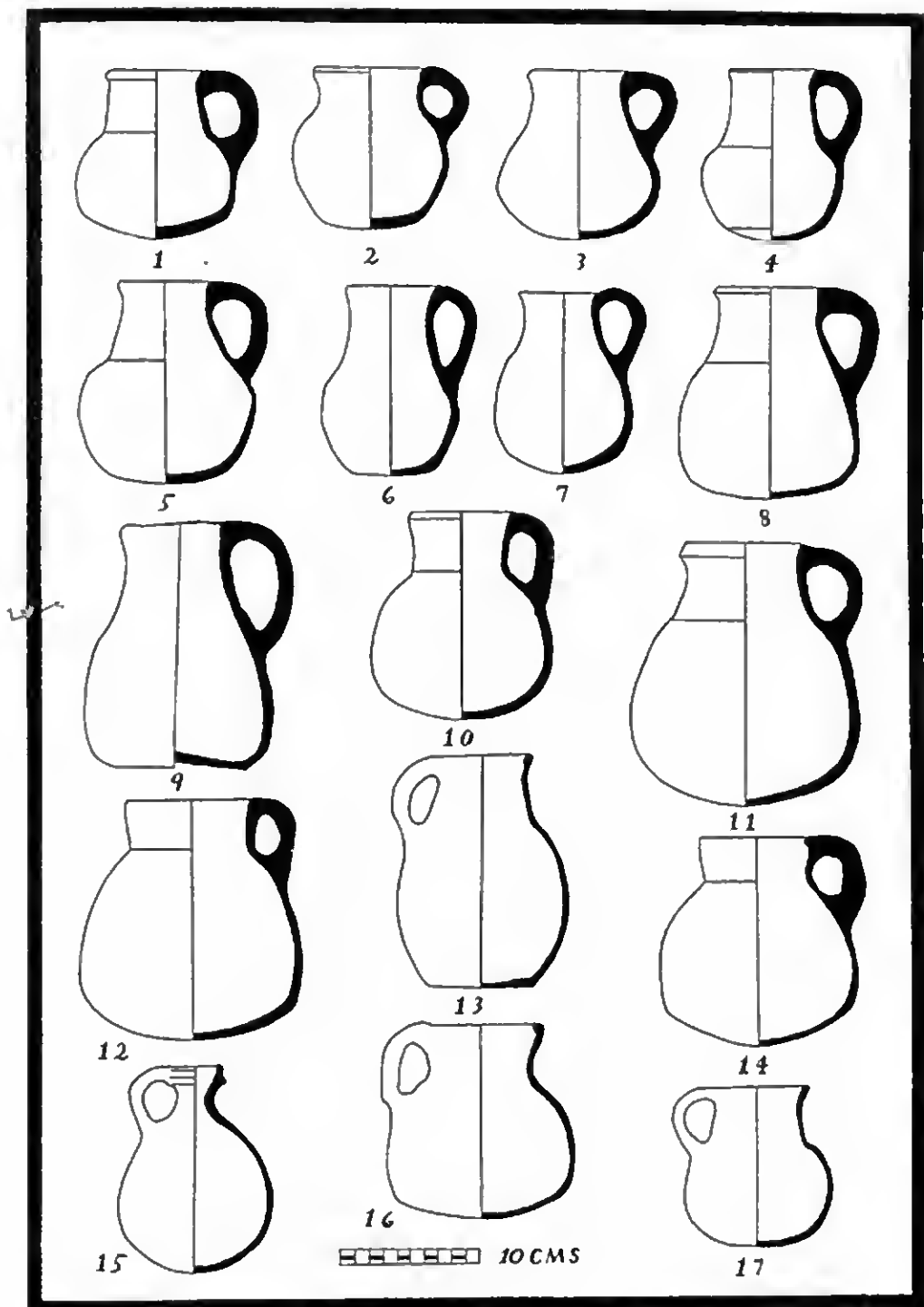


PLATE 57(A)

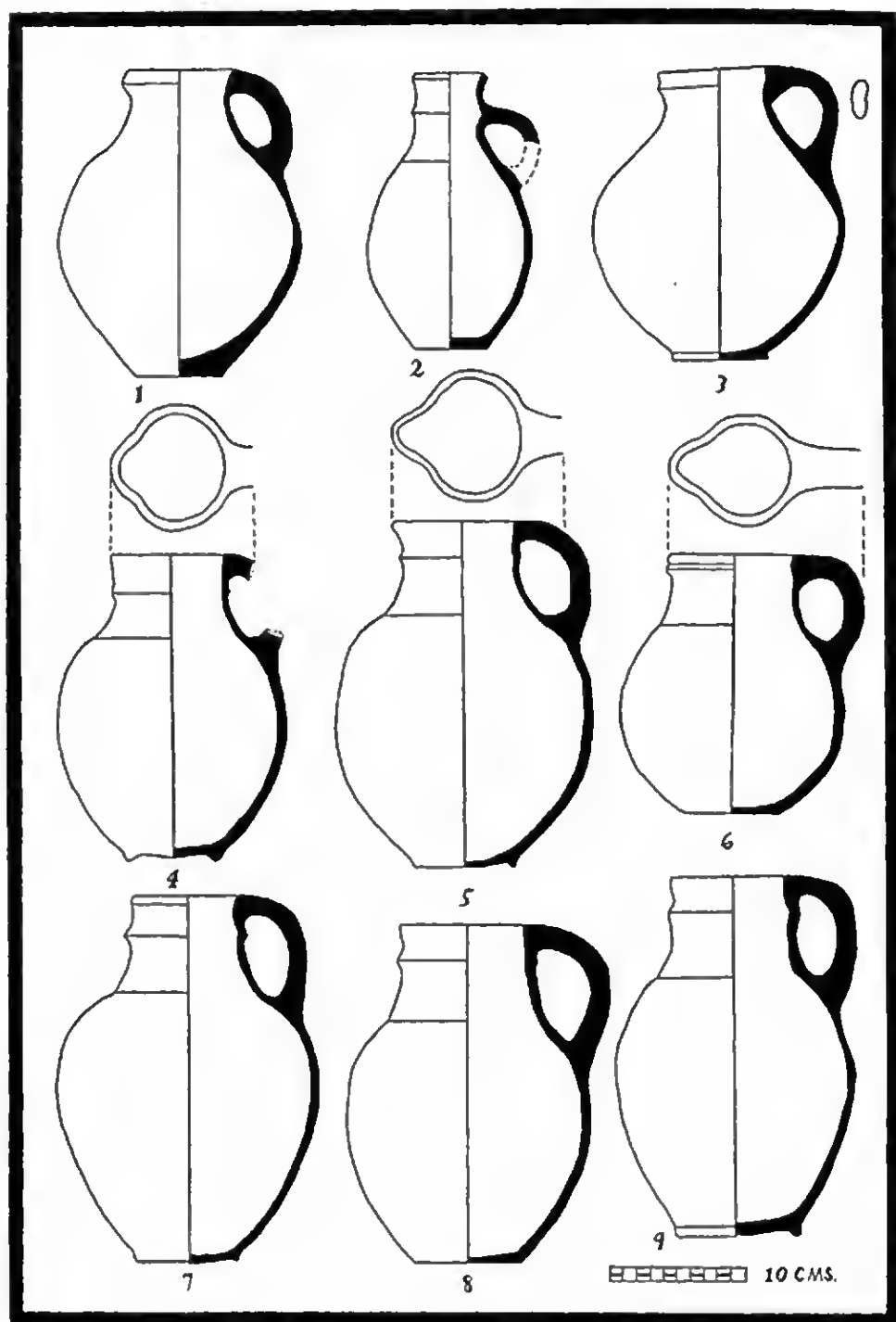
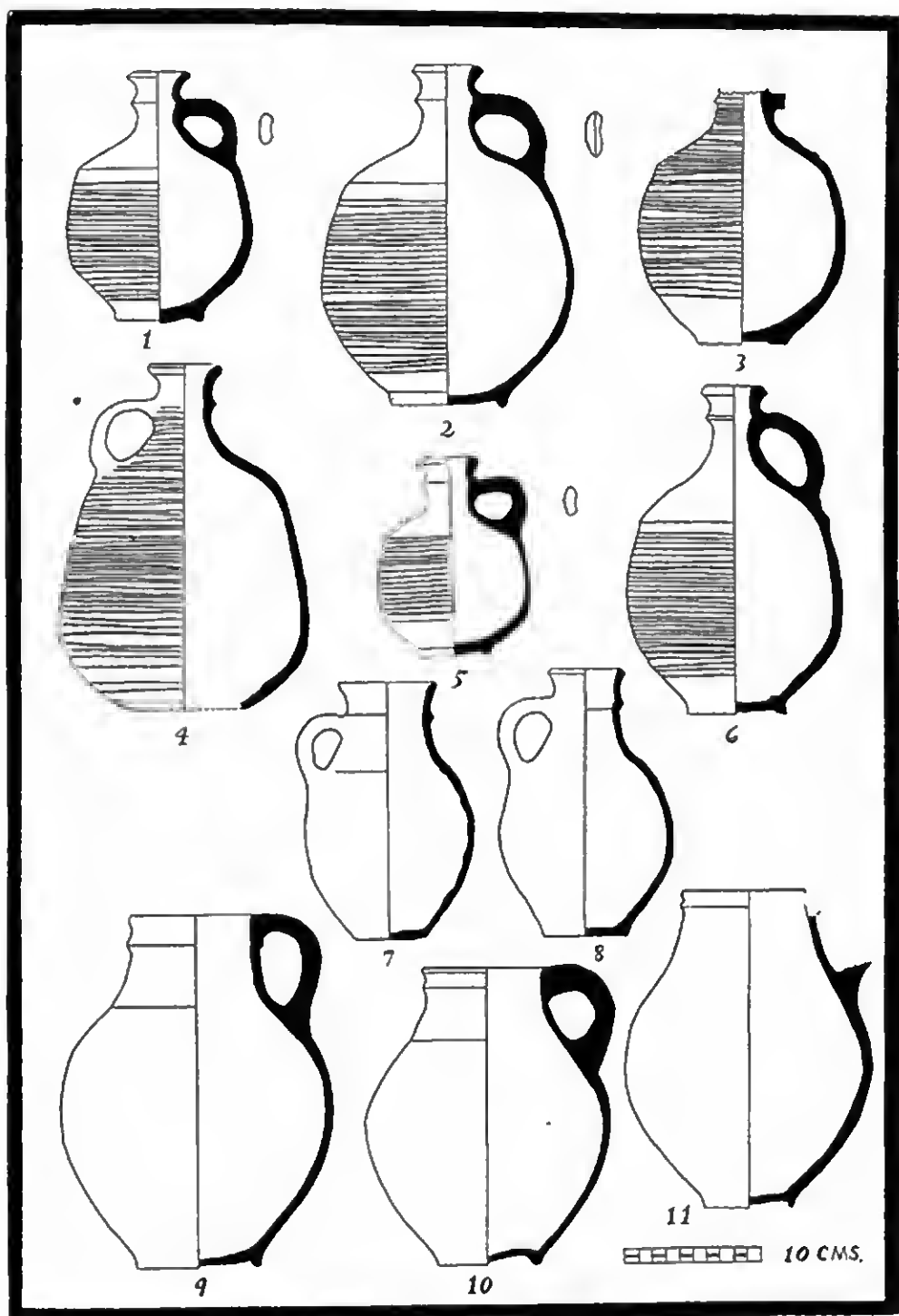


PLATE 58(A)



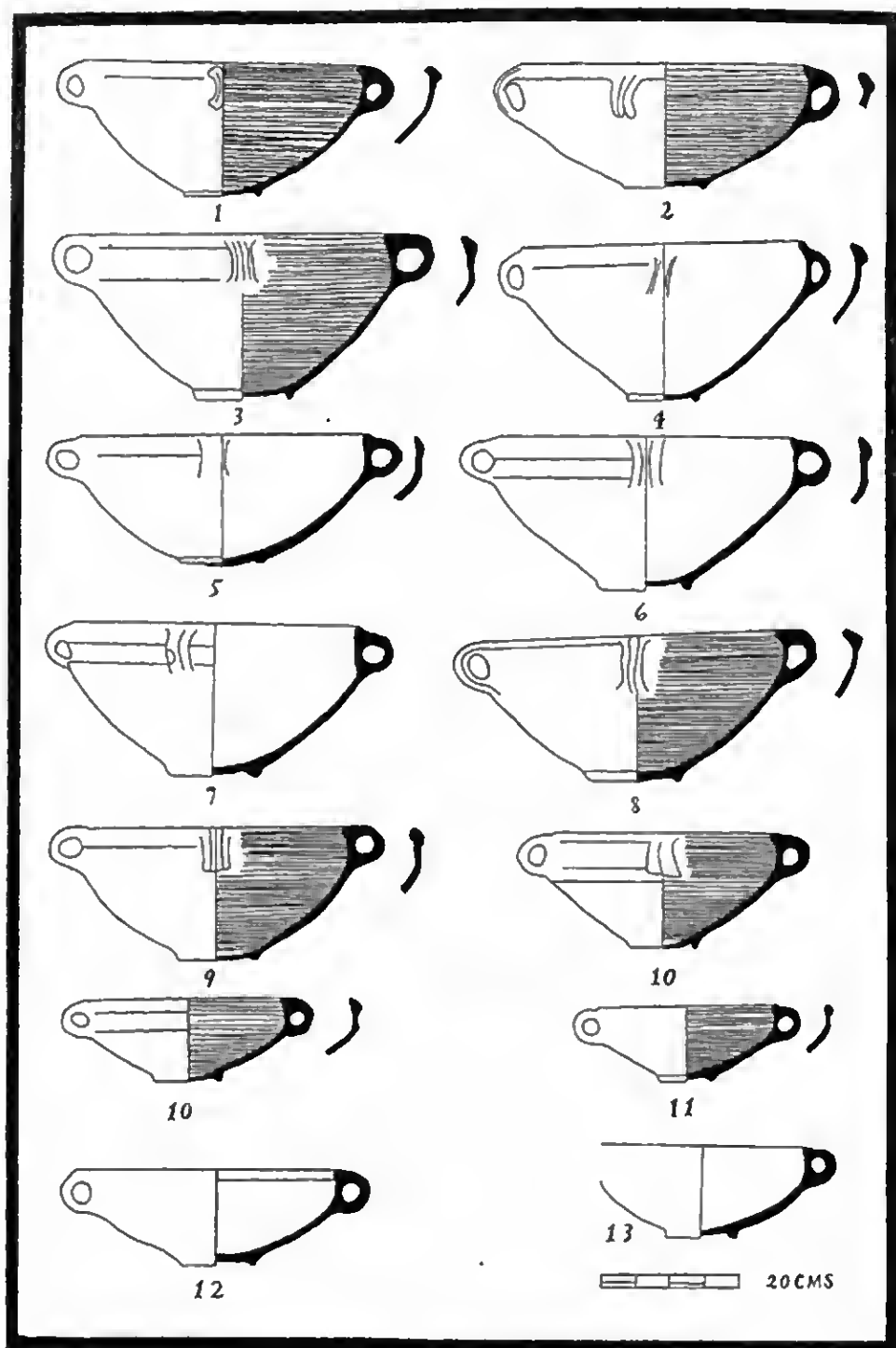


PLATE 60(A)

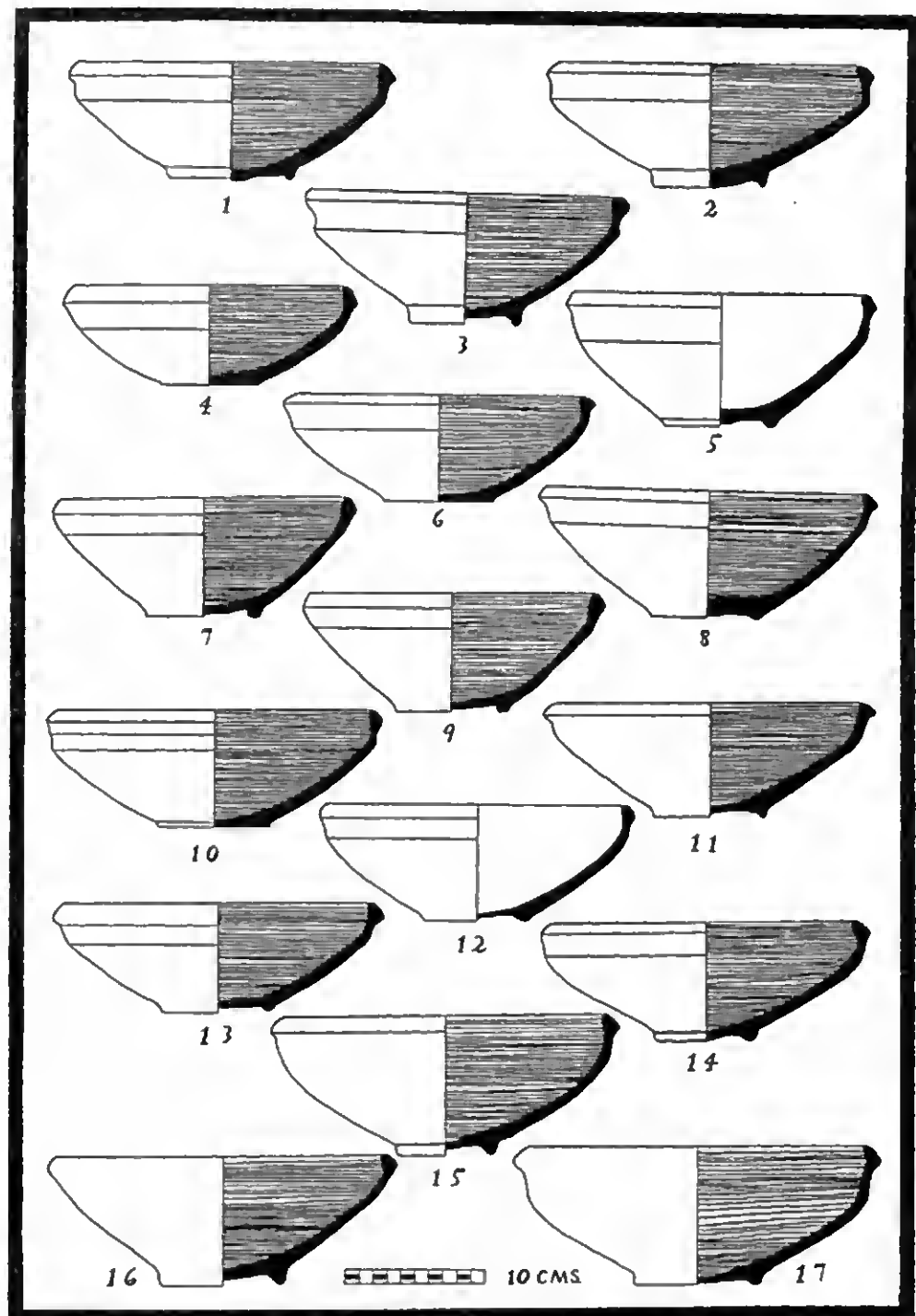


PLATE 61(A)

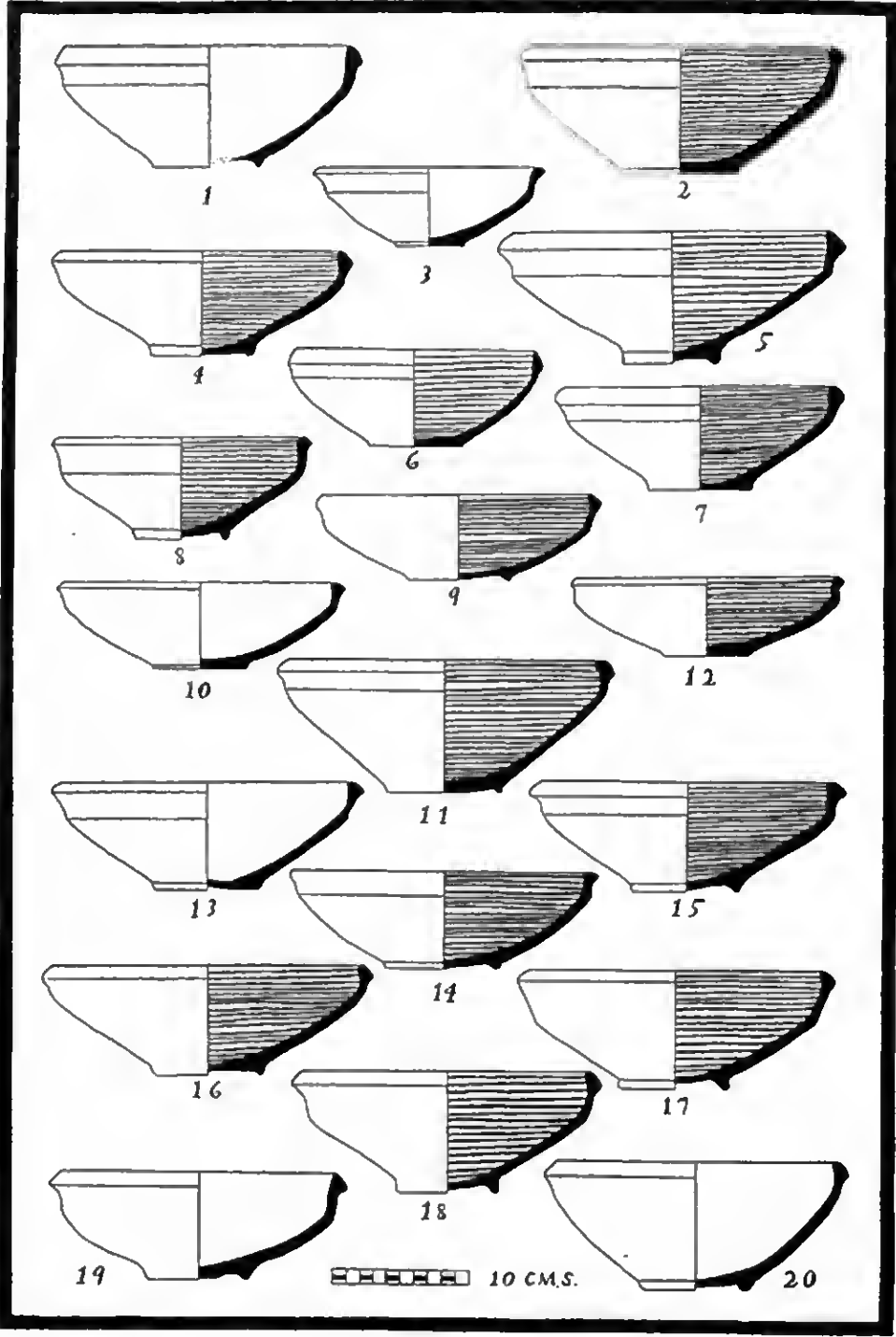
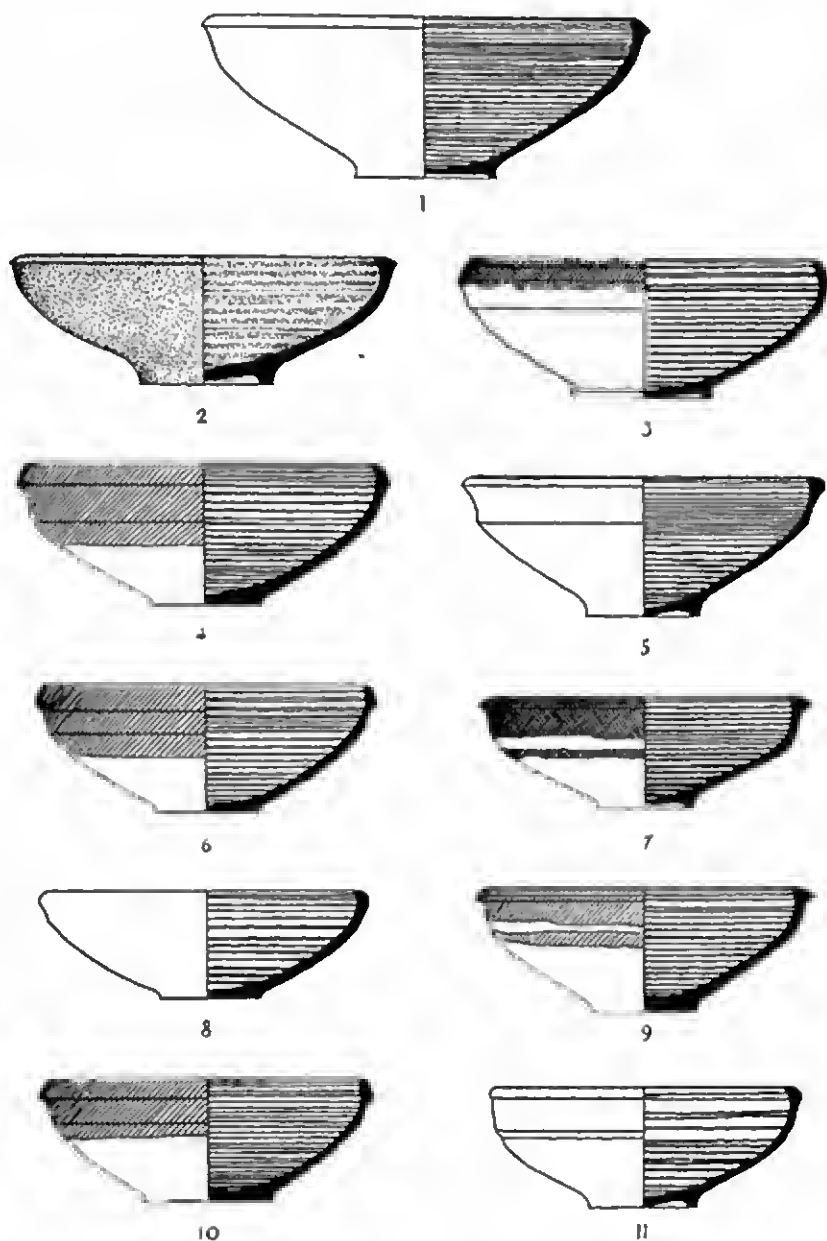


PLATE 62(A)



SCALE  
0 1 2 3 4 5 6 7 8 9 CMs  
[A scale bar with markings for each centimeter from 0 to 9]



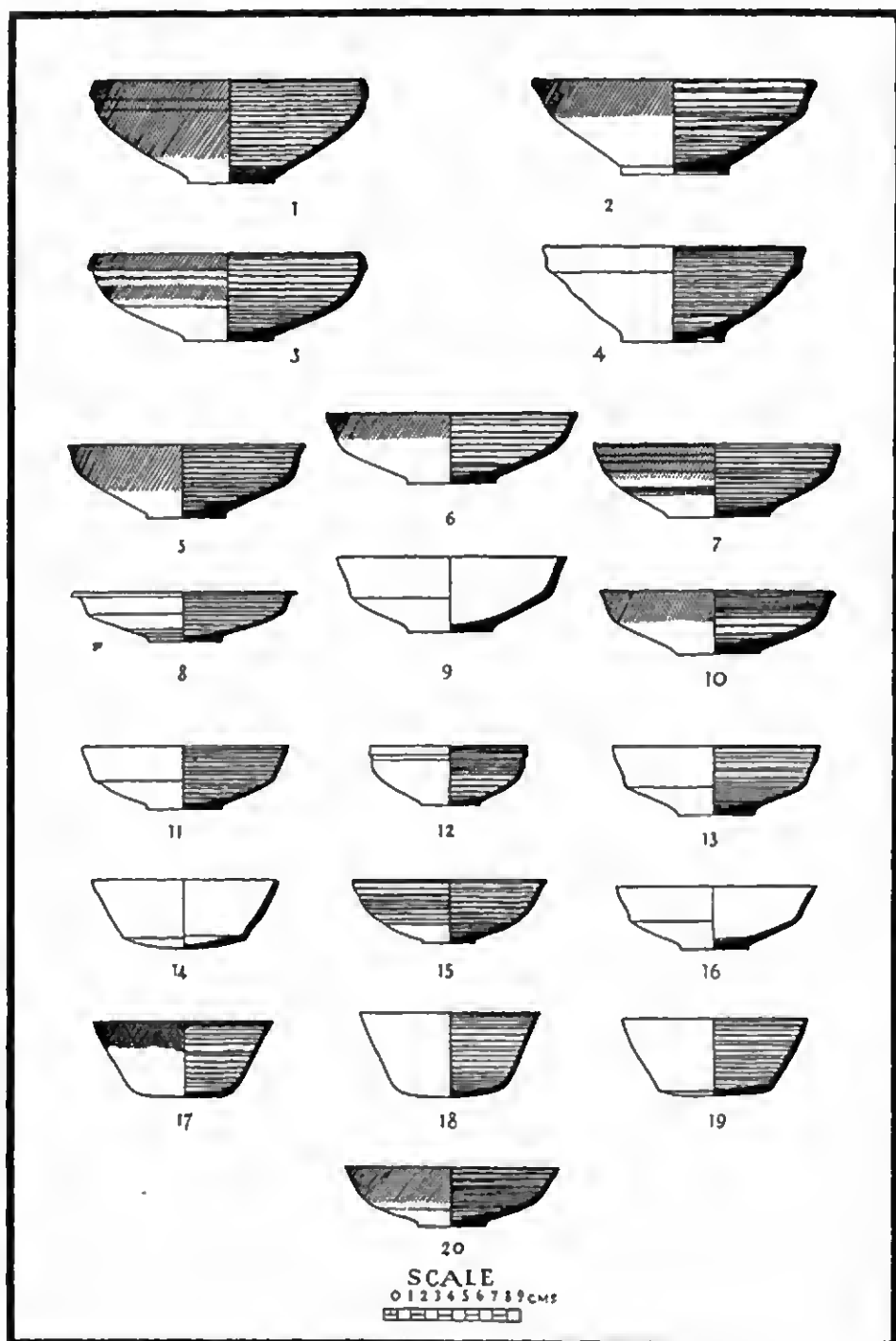


PLATE 64(A)

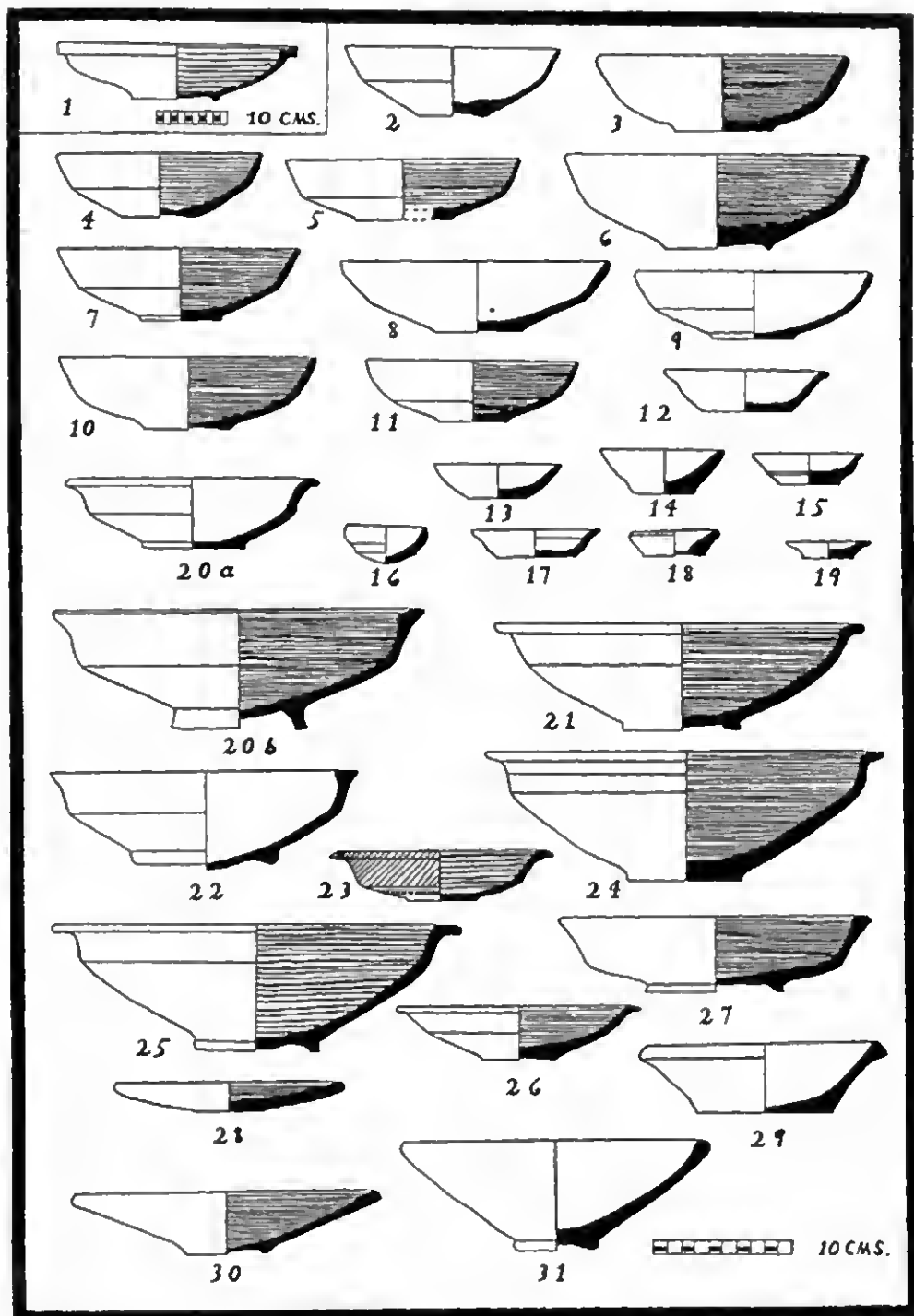


PLATE 65(A)

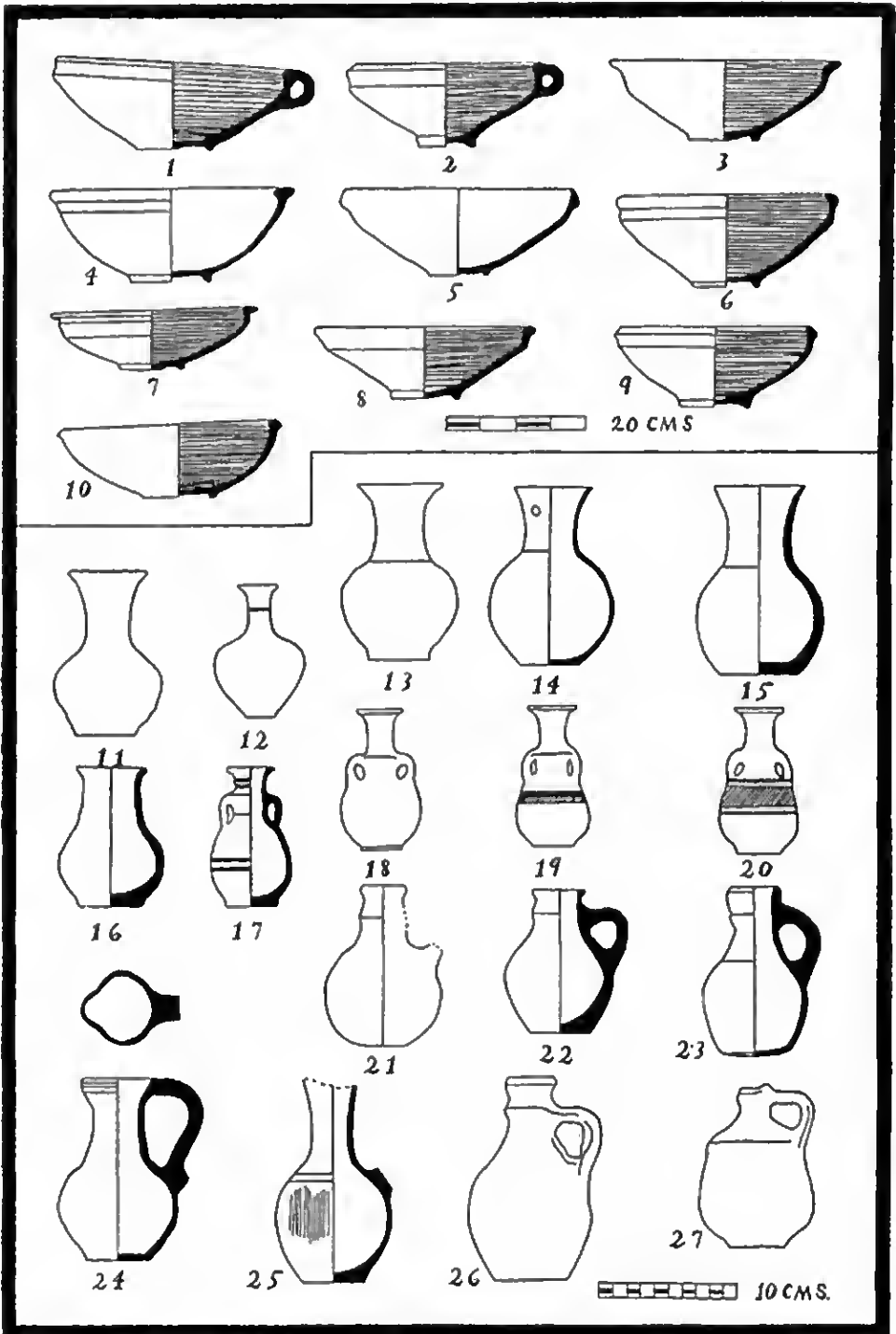


PLATE 68(A)

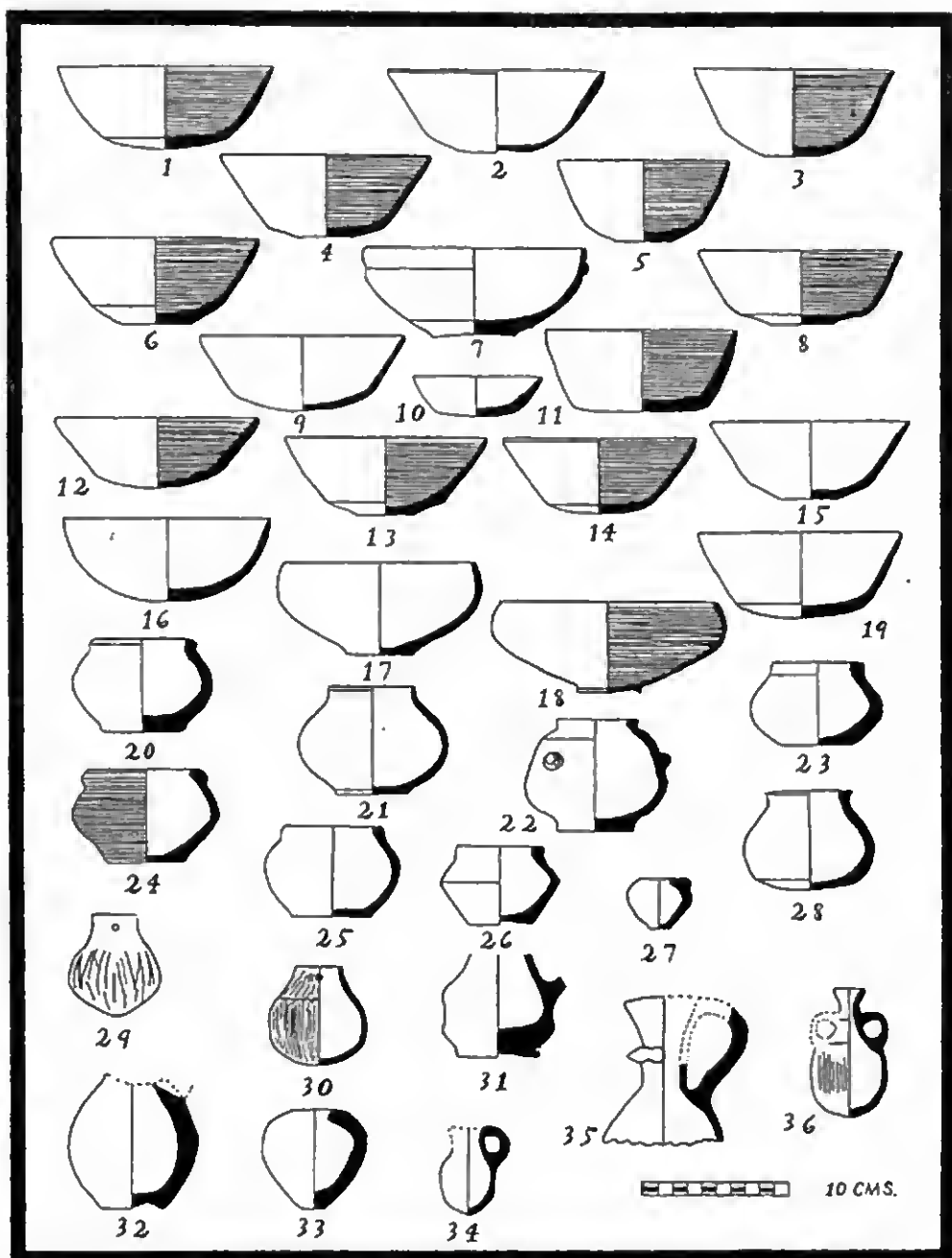


PLATE 67(A)

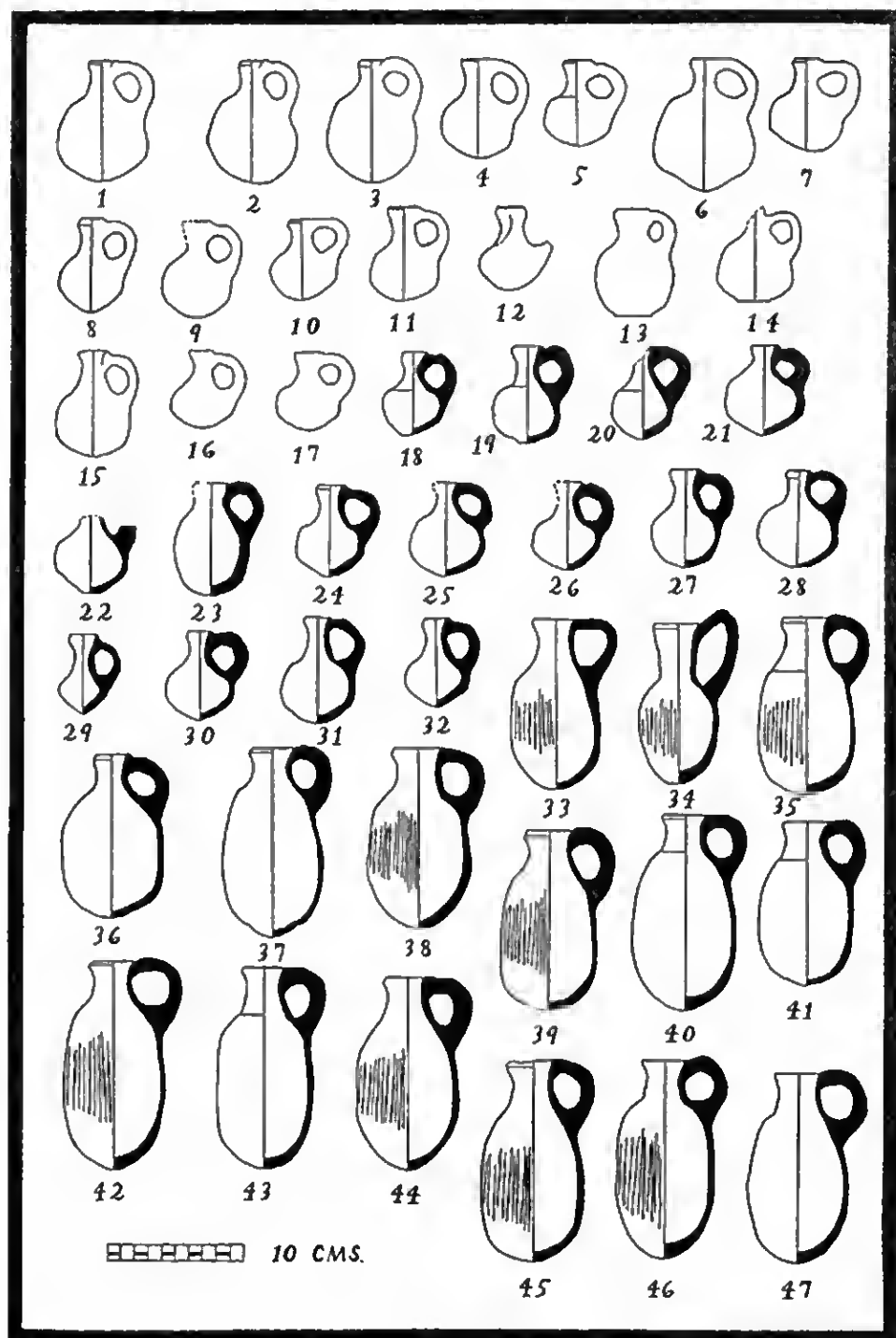


PLATE 68(A)

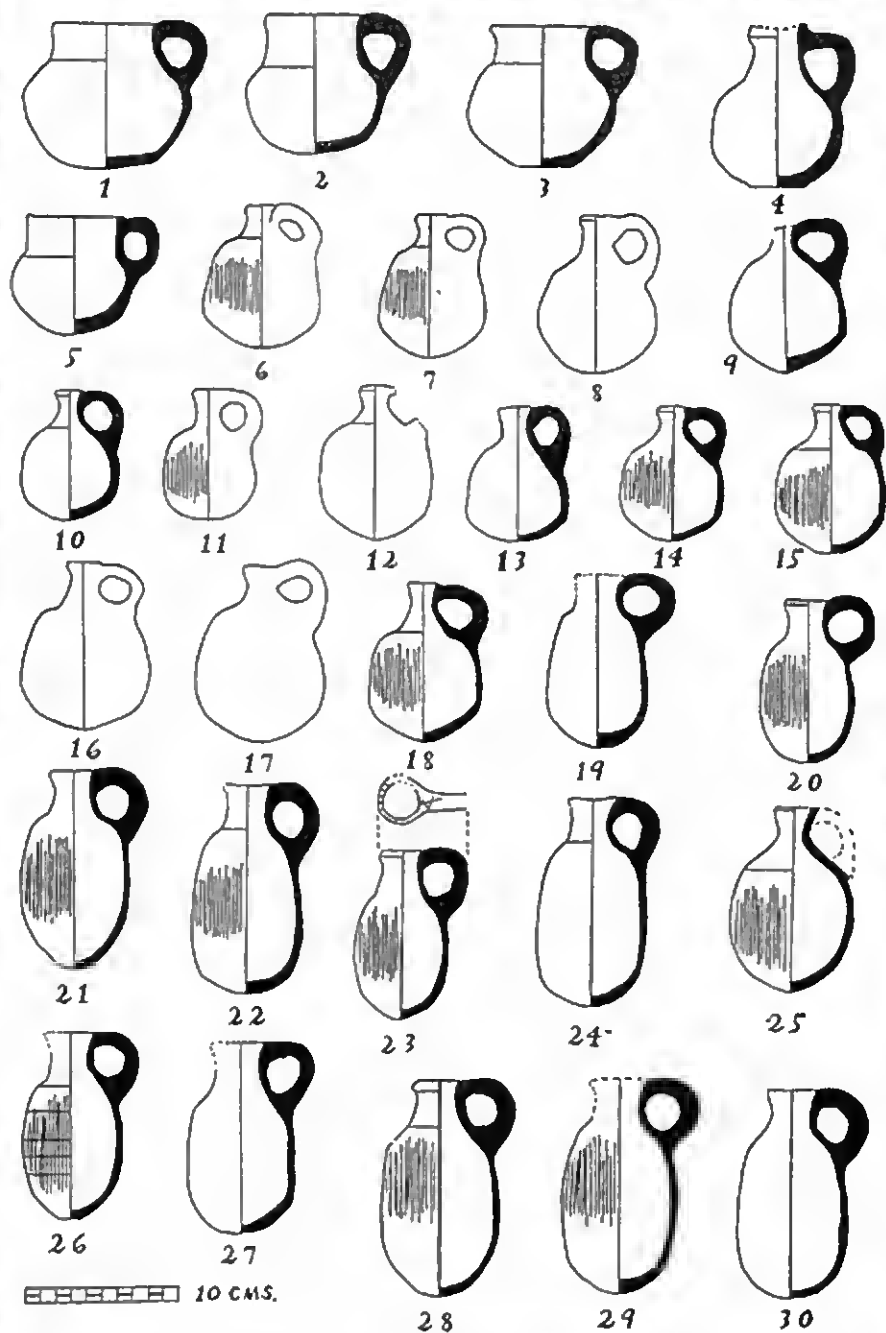


PLATE 69(A)

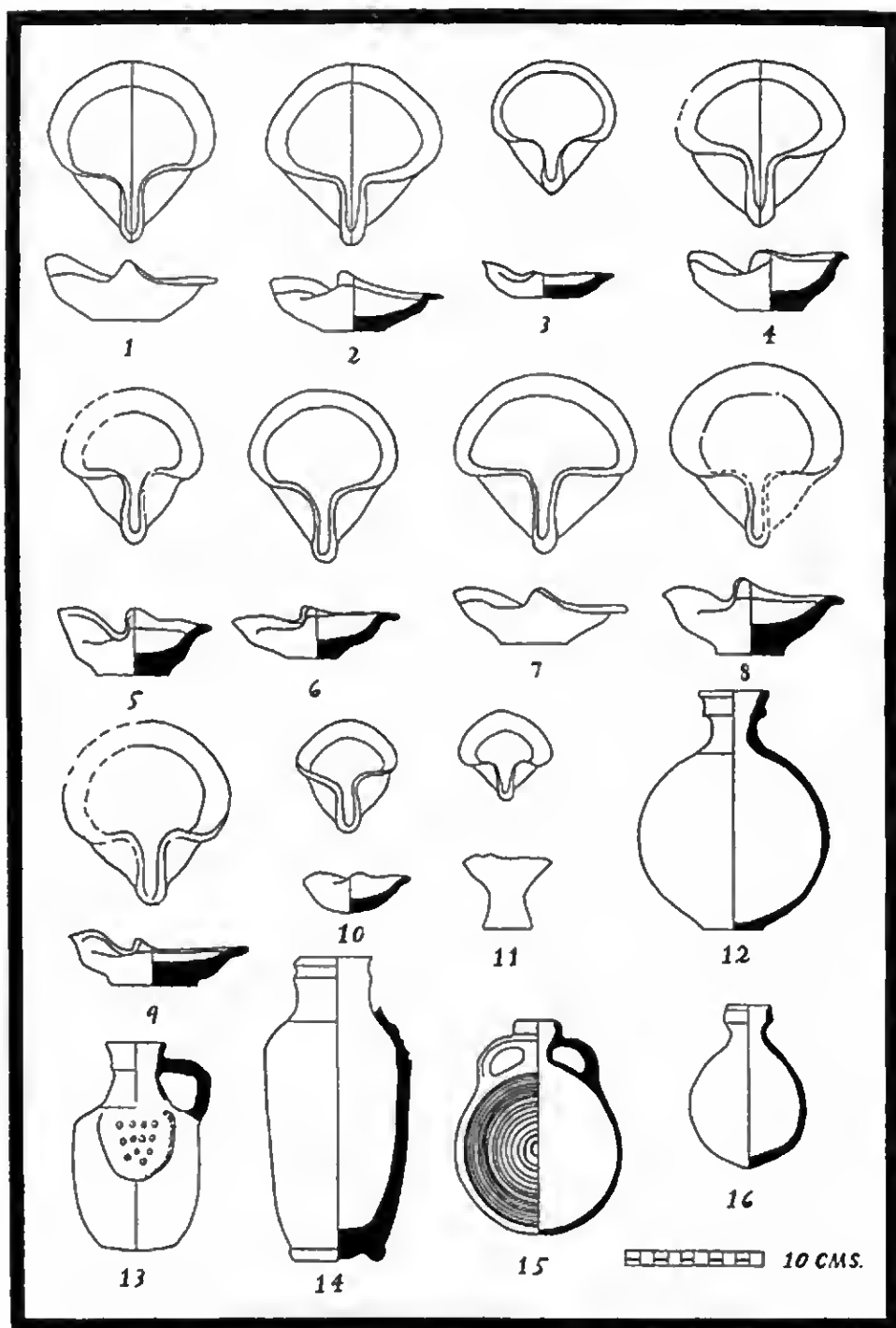


PLATE 70(A)

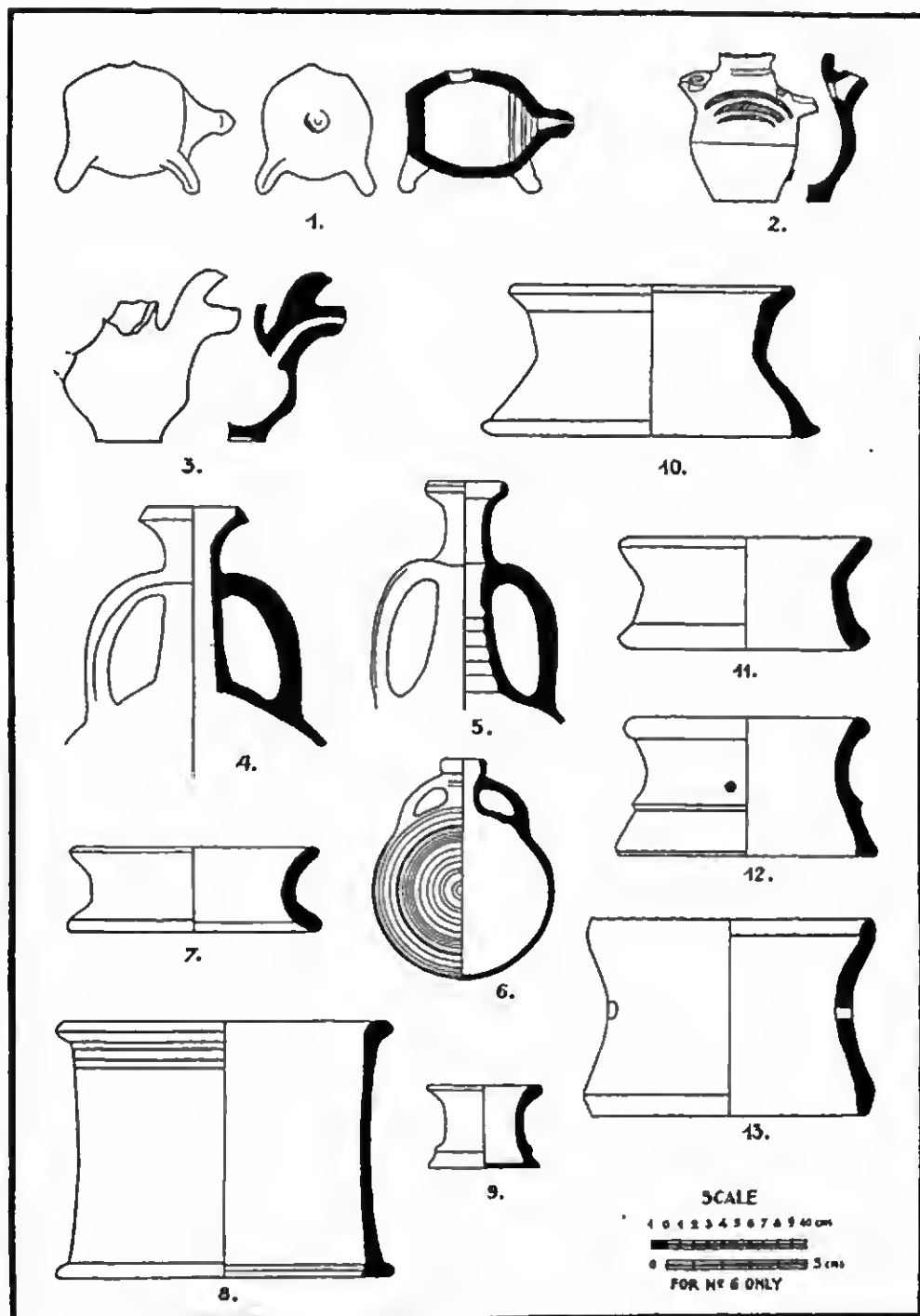


PLATE 71(A)







11.75.

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*"A book that is shut is but a block"*

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